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ABSTRACT

This document contains the proceedings of the 25th World Assembly of the International Council on Education for Teaching. The Assembly focused on the topic of improving teacher education on a global scale. Leading educators from every continent participated in workshops, plenary sessions, and group discussions on a variety of topics dealing with the assessment of educational efficiency, educational technology in teacher education, performance based teacher education, the power of motivation in teaching, rural education, nonformal education, innovation in teaching, and new directions in higher education. A special seminar for businessmen concentrated on the relationship of business and industry to higher education. Selected and edited papers and speeches addressing these topics are presented. (Author/LH)

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TEACHER EDUCATION 1978

ICET

THE QUEST FOR EXCELLENCE IN TEACHER EDUCATION

INTERNATIONAL PERSPECTIVES ON IMPROVING THE QUALITY OF TEACHER EDUCATION

INTERNATIONAL COUNCIL ON EDUCATION FOR TEACHING

SP 015 834

INTERNATIONAL COUNCIL ON EDUCATION FOR TEACHING

ICET is an international voluntary agency linking educational organizations, institutions and individuals in a worldwide communications network involving over seventy countries. Founded in England in 1953, the secretariat was moved to Washington in 1968. ICET is the only international organization whose primary objective is the improvement of the quality of the teaching profession and making it more responsive to the development of society. ICET serves, in effect, as the global voice of those concerned with the preparation of teaching personnel. It has official consultative status with UNESCO.

The membership network, including colleges, universities, educational organizations, and individuals, provides a unique source of expertise to assist the world's educational community in providing education for its citizens.

The Council's decision-making body are the Board of Directors and the Board of Trustees whose members are representative of the geographical, social, cultural and professional diversity of the world. The Board of Directors is elected from membership at large. The Board of Trustees is comprised of individuals known for their interest in fostering international cooperation and the improvement of educational opportunity and quality in the world.

The activities of the Council are coordinated by a Permanent Secretariat which serves as the fiscal and administrative agent of ICET and is responsible for facilitating the cooperative projects of its members.

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THE QUEST FOR EXCELLENCE IN TEACHER EDUCATION

International Perspectives on Improving the Quality of Teacher Education

Proceedings of the XXV ICET

World Assembly

Rio de Janeiro, Brazil

July 24 to 28, 1978

Editors

Howard B. Leavitt

Frank H. Klassen

ICET is a non-government organization (NGO) member of the United Nations Educational, Scientific, and Cultural Organization.

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In addition, ICET expresses special appreciation to the following whose diligent efforts produced this publication: Mary Eager, Elizabeth Edwards, Susan Hafen and Margaret Leavitt.

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From the President's Pen

The 1978 World Assembly was a landmark in the history of the International Council on Education for Teaching. Twenty-five years earlier a group teacher educators from countries around the world met in Oxford, England, to found a new organization dedicated to improving the quality of the teaching profession and making it more responsive to the development needs of society.

During its first quarter of a century ICET has developed a membership network that reaches around the world. Colleges, universities, educational organizations, and individual professionals who comprise the membership provide a unique source of expertise to assist the world's educational community in the task of providing quality education for its citizens. ICET believes that the worldwide goal of equality of educational opportunity can be achieved only if all children, youth, and adults have the opportunity to learn under the direction of highly qualified and dedicated teachers.

The XXV World Assembly in Rio de Janeiro focused on an important theme: INTERNATIONAL PERSPECTIVES ON IMPROVING THE QUALITY OF TEACHING. Leading educators from every continent participated through workshops, plenary sessions, and group discussions on a variety of topics dealing with the assessment of educational efficiency, educational technology in teacher education, performance based teacher education, the power of motivation in teaching, rural non-formal education, innovation in teaching, and new directions in higher education. Speakers and panel discussants from many countries made it possible for the entire group to share global developments in teacher education. A special seminar for businessmen focused on the relationship of business and industry and higher education.

This document includes papers and other presentations that marked the twenty-fifth anniversary of the founding of ICET.

Paul H. Masoner
President

Foreword

The XXV World Assembly of the International Council on Education for Teaching was held in Rio de Janeiro, Brazil, July 24-28, 1978, and focussed on the conference theme, "International Perspectives on Improving the Quality of Teaching."

This book contains selected, edited papers and addresses from the conference dealing with new developments in teacher and higher education as these institutions struggle to maintain quality while undergoing profound changes.

Historically, the roots of formal education lie within the tradition of elitism and exclusivity. A central function of the system in the past has been the screening out of the less academically bright; the winnowing out of those unable to pass academic tests.

Today, however, exclusive preoccupation with the academically gifted or socially elite is being superceded by concern for an all-inclusive clientele. The social need for educated citizens and the manpower needs for industrializing societies combined with a rising egalitarian belief that everyone has the right to education, have radically transformed the status of education in most countries of the world.

Strong pressures on governments to democratize the school system, introduce education for all through universal primary and secondary education, translate into problems of system expansion, quantitative change and increases in scale.

This situation calls for a redefinition of the concept of quality away from that which is applicable to a few students who test well on a narrow set of competency tests towards other concepts. This book explores these other dimensions of quality. It deals with quality education which is able to generate powerful achievement motivation in individuals. It deals with quality which occurs when a much broader range of important and useful goals are used to motivate students. It deals with quality, characteristic of programs of instruction which are flexible enough to serve students with a wide range of individual characteristics.

In the face of pressures for linear, quantitative expansion, systems must assiduously ensure that quality factors, conceived more broadly than before, receive attention. Towards this goal, the education of teachers is paramount.

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Section One:

MOTIVATION IN TEACHING

Recent studies of the relationship between student achievement and teacher characteristics reveal that teachers who themselves possess a positive mental attitude and strong achievement motivation are capable of motivating their students to excel beyond normal expectations. It is fitting, therefore, on the twenty-fifth aniversary of the founding of ICET that STONE'S presentation on the power of motivation in teaching serve as the lead section of this book. Mr. Stone, Chairman of ICET's Board of Trustees has dedicated a part of his life to the dessimination of the powerful message that teaching people how to motivate themselves is one of the key foundations of excellence.

The Power of Motivation in Teaching

W. CLEMENT STONE
Chairman, ICET Board of Trustees
Chairman, Combined Insurance Company of America
Chicago, Illinois, U.S.A.

As chairman of the Board of Trustees, may I wholeheartedly express my appreciation to each and every one of you participating in this congress. It is my prediction that this twenty-fifth annual ICET congress will be recorded in the history of education as the turning point toward a giant step forward in improving the quality of learning and teaching in our educational institutions worldwide.

This prediction is warranted because we shall share with each other the application of known universal truths. These have not been taught in our elementary schools, high schools, colleges and universities until recent years when how to apply them has been successfully taught to solve the problems which the instructors, students and educational institutions at all levels have been and are faced.

We train persons on how to use the mechanical computer, but not *how to* tap the powers of the subconscious at will, such as: passions, emotions, instincts, tendencies, feelings, mood...*how to* direct their thoughts...*how to* set goals -- high goals -- and *how to* achieve them.

Stop for a minute and think, how would you answer the following questions:

- What professor or teacher taught you..or what student did you teach, *how to* recognize, relate, assimilate and apply principles in the behavioral sciences? Take psychology for example; who taught you *how to* use the greatest machine ever conceived..so awesome that only God himself could create it: the brain and nervous system, the human computer from which the mechanical com-

puter was designed?

- What professor or teacher taught you..or what student did you teach, *how to* recognize, relate, assimilate and apply principals from what is seen, read, heard or experienced?
- What professor or teacher taught you..or what student did you teach, *how to* learn, understand, comprehend and apply at will the Art of Motivation: *how to* motivate yourself and *how to* motivate others?

I am not going to motivate any one of you, and not one of you is going to motivate yourself at will or motivate anyone else unless what is said is believable, desirable and attainable...or offers the hope of attainment. Hope is the magic ingredient in motivation. A motive is that inner urge which determines choice only within the individual, that moves him to action such as a passion, emotion, instinct, tendency, feeling, mood, habit or idea.

In education, the assumption has been, "Knowledge is power." This is not true. It is only potential power..until it is used. Just as the gasoline tank of your car is only potential power..until you turn the ignition key, causing a spark. Only then does the gasoline actually become power.

The mechanical computer does nothing unless; the power is on...it is instructed...it is activated to execute the instructions given to it. Power...instruction...activation are needed to get results.

The power of the human computer -- the brain and the nervous system -- is constantly on, ready for action, even though it be a reflex action, whether the individual is awake or asleep. A student may take a psychology course and receive a very high grade merely by using his memory. He is not taught, however, how to apply the principles that he has learned in the course. He may experience the negative emotion of unwarranted fear but may not immediately neutralize it even though he may have the knowledge of a universal truth stated by Professor William James of Harvard: "Emotions are not always immediately subject to reason, but are always immediately subject to action." This problem is understandable because he has not been taught how to recognize, relate, assimilate and apply principles he studies at school in the behavioral sciences, or from what he sees, reads, hears of experiences in other aspects of life.

It is amazing...truly amazing that in this century, with the development of the science of psychology in our educational systems that educators have not learned and taught how to recognize, relate, assimilate and apply the principles in their courses or the art of self-motivation at will and how to mo-

tivate others to motivate themselves. No one discipline has all the answers. We can, however, learn from other disciplines if we are willing to keep an open mind.

My contribution to this congress is to share with you that knowledge which has proved effective in motivating countless tens of thousands of persons to learn, understand, comprehend and apply the art of self-motivation, as well as how to motivate others to motivate themselves to develop a positive mental attitude.

Before closing, I would like to share some ideas on how to learn and apply the art of motivation with PMA, which is explained further in Success Through a Positive Mental Attitude, a book co-authored by Napoleon Hill and myself.

You are the most important living person as far as you and your life are concerned.You are the product of your heredity, environment, physical body, conscious and subconscious mind, experience in thought and action, and...something more, including powers known and unknown. You have the power to affect, use control, neutralize or harmonize with all of them. You can direct your thoughts, control your emotions and ordain your destiny with a positive mental attitude.

There are three ingredients that are absolutely imperative for continuous success.

One is the necessary *activity knowledge* or theory of the right way to achieve a specific objective or goal. The second is *know how* or actual experience of doing it the right way to get the right results. And the third is *inspiration in action;* specifically, how do I motivate myself at will and how do I motivate others? A person may know exactly what to do and how to do it, but he may not feel like doing it when he should.

If a person wants to overcome procrastination...if he wants to get into action when he should, he can use self-suggestion. Specifically, memorize three words for a purpose to have them flash from the subconscious mind to the conscious mind in time of need. The three words are *do it now!* When this self-motivator does flash from the subconscious to the conscious, if the individual will act immediately on small, easy matters, he will develop the habit so that he will act when great opportunities present themselves, even though he might be hesitant or afraid.

You are warranted in giving careful study to the concepts I am trying to share with you. A few of the many reasons are:

- With an original investment of $100 plus the art of motivation with PMA, I built the largest insurance company of its kind in the entire world.
- Elementary schools, high schools, colleges and universities have scientifically proven the value of the techniques that my associate, Dr. Hall and I advocate.

- In boys clubs throughout the United States, we have proved that we can motivate youth, regardless of what crimes they have committed or how putrid their environment may be, to become decent, fine citizens. Also drop outs and potential drop outs have become good students and some good scholars.
- We have testimonials from persons in all walks of life on how they were able to achieve exceedingly high goals.
- We have proved that the disadvantaged can be motivated to motivate themselves to get jobs and earn good incomes, even though they may have been on relief for long per - iods of time.
- We have proved that women on relief could be motivated to motivate themselves to increase their knowledge, get jobs, keep them and free themselves from economic bondage.
- Private and public schools throughout the United States have solved educational, character and financial problems by administrators who learned the art of motivation with PMA.
- We have trained young people on how to engage in profitable employment so as to earn honest money. But, most importantly, we have been able to prove that an individual can discover that which the philosophers of the ages have admonished individuals to learn: "Know thyself."

As you can see, the application of PMA has made a difference in the lives of many individuals. Hopefully, as people continue to discover the art of positive thinking and incorporate this into their lives, they will be better able to deal with the questions and innovations of the future.

Section Two:

NEW DEVELOPMENTS IN TEACHER AND HIGHER EDUCATION

Section Two deals with new directions and needs in higher education in three countries. SANDEFUR deals with the changing forms of professional development in the U.S. and PENALVER describes the open university concept as developed by Venezuela. Finally PINILLA argues for a return to the original functions of the medieval and ancient university as an appropriate response to the needs of modern nations.

New Directions for Teacher Education: Professional Development in the U.S.

J.T. SANDEFUR
President, American Association of Colleges for Teacher Education
Dean, School of Education
Western Kentucky University
Bowling Green, Kentucky, U.S.

Educators throughout the world are aware that in a dynamic and changing society, educational institutions and educators cannot remain static. They must respond to the needs of society and new directions for society means new directions in teacher education.

The Professional Education of Teachers

Teacher education is perhaps the most difficult of all professional education programs because there is no common professional criteria for preparing the effective teacher.

According to the American Association of Colleges for Teacher Education Bicentennial Commission for the profession of teaching, in their 1976 report, "Educating A Profession", a profession can be identified by the following characteristics:

- The possession of expertise not available to nonprofessional members of the society,
- A common body of knowledge possessed by the people who practice the profession,
- A repertoire of behaviors, skills, and attitudes a person is expected to have before being permitted to provide services to clients,
- Entry standards to the profession and standards for continuance in the profession,
- A protracted period of training, usually in a university,
- A close relationship with the operating system by which that profession delivers its services,
- A high level of public trust.

The Commission concluded that teaching was more nearly a semi-profession than a profession when weighed against these and other criteria.

The Commission also concluded that teacher education in the United States was limited by an insufficient professional culture. By professional culture, they meant that body of knowledge and skills which is developed by the profession, trans-

mitted during the preservice preparation program, and enlarged through inservice and continuing education.

Components of Teacher Education

The AACTE Bicentennial Commission has further defined three component parts of the education of teachers: preservice inservice, and continuing education.

- The preservice preparation of teachers prior to their entry into a profession occurs in an institution of higher education and is designed to provide substantative content, the professional behavior and skills that teachers need, the instructional strategies, classroom management techniques, and an understanding of classroom interaction--all at a minimally acceptable level.
- Inservice education, according to the Commission, is a term that ought to be used only in connection with the activities which school districts conduct in order to train the teachers they employ in the particular mode of education they choose to use.
- Continuing education was defined by the Commission as the ongoing process by which a teacher, after initial entry into teaching, continues professional education for the rest of his/her career. In most professions, continuing education needs are met by professional organizations, colleges and universities having professional schools.

New Directions in Inservice and Continuing Education

Several developments have occurred in the United States during the past decade that have significantly affected the traditional roles of schools and colleges of education.

The Increasing Professionalization of Teachers

The developing strengths of professional teacher organizations are bringing several new directions to inservice education that are noteworthy. In the U.S., teachers have become a significant political voice as well as a professional voice. They have won the right to negotiate for salary, working conditions, and a role in governance. They recognize the importance of inservice and continuing education, and they are demanding a voice in the governance of teacher education - an area previously left largely to higher education. As a result of the influence of teacher organizations, several new directions for inservice education are emerging:

- *On-Site Teacher Training.* Both inservice and continuing education programs are becoming increasingly field-centered. Instructional programs are being moved out of the college and university classroom and into the schools. This is being done both for the convenience of teachers and also because the classroom with live students and practical problems may well be superior to the college classroom as a learning site. In addition to the emphasis on job-embedded, on-site activity, there is increasing use of practicing teachers as instructional personnel in in-service activity and a declining use of college professors.

  The influence of the organized teachers has led to the development of federally funded teacher centers that are designed for the professional improvement of teachers. These centers are governed by teachers and largely staffed by teachers. It is significant that the practicing profession is increasingly assuming responsibility for its inservice growth and development. Higher education is assuming a more supportive and responsive role to the identified needs of teachers.
- *New Kinds of Teacher Credits.* One spin-off from the increasing professionalism of teachers and the governance issue is change in certification requirements. Many states now permit the use of continuing education units (CEU's) and professional development units (PDU's) to replace college credit hours as a requirement for additional certification, salary levels, and promotion. The terms "CEU" and "PDU" denote credit produced in and awarded by local school systems. This new development must be watched closely to assure that quality and standards are carefully maintained. Again, the significance is the shift from higher education - generated instructional programs to programs generated by the profession, usually through local schools.
- *Field-Based Graduate Programs for Educators.* A third, and not yet fully assessed, spin-off of the same phenomenon, is the change in college and university graduate programs for teachers. As graduate programs have been moved off campus and become more field-based, they have also become more responsive to teacher needs. Courses that were once formalized and theoretical are now more likely to be responsive to newer educational emphases. For example, instructional programs on competency-based education, individualized instruction, concept teaching, classroom management, prescriptive teaching, etc., are frequently taught in the field and the credits earned are applied toward degrees.

- *Less Rigorous Academic Requirements.* There is considerable evidence, perhaps even a trend, that colleges and universities are relaxing some of the traditional academic rigors of graduate degrees. For example, the residency requirement is being relaxed in many institutions, fewer education degrees require theses, and perhaps even the traditional research requirements are being relaxed somewhat.

The Increasing Response of Teacher Education to External Pressure

Colleges and universities, in their efforts to respond to pressures from teachers organizations, are increasingly opening the governance structures to practitioners who frequently serve on teacher education committees, personnel search committees, and policy formation committees. Their presence on these significant governance committees will continue to move teacher education more into the control of the profession.

Teacher Input in Teacher Training

It can be predicted that teacher education programs will become increasingly attuned to the functional needs of teachers-that is, those behaviors, skills, and competencies needed by teachers and educational personnel in the performance of their jobs. Teachers have frequently criticized university-based teacher education programs as being too theoretical and detached from the real world of teaching. Now that their voice is heard in curriculum and policy committees, program content and instructional strategy is likely to show change.

Regarding instructional strategy, college professors can no longer continue to treat professional teachers as children, demanding conformity and deference from them. New modes of instruction and different settings are necessary. University teacher educators are hearing that message and are responding in new and diverse ways. In addition to field-based programs, increasing attention is being given to internships and clinical experience in which teachers in-training are given on-the-job, practical work experience. Lectures are giving way to a variety of instructional methods including minicourses, workshops, seminars, individualized instruction, practicum experience, programmed learning, and other techniques. Thus teachers are able to continue their roles as professionals rather than reassuming student roles.

Faced with this new reality colleges and universities are beginning to seriously examine how adults learn. How do adults react to different instructional programs? Should inservice

teachers be taught differently from undergraduate students? What are the affective dimensions of effective inservice instruction? Adult learning will undoubtedly be a research objective for the immediate future in higher education.

Federal Mandates on Education

Other forces influence the directions of teacher education in the U.S., not the least of which are federal mandates arising from legislation: education of the handicapped, career education, the educationally disadvantaged, and teacher accountability. Adequate or inadequate financing of teacher education and education in general, as well as a diminishing of public confidence and the growing power of state departments of education will all continue to shape the education center.

New Directions and Needs

As needs influence new directions, new directions point out new needs. A few of the evident needs that have evolved from some of the new developments in teacher education in the United States are listed as follows:

- Teacher educators should develop viable relationships with teacher organizations and share governance in new ways.
- A more appropriate role for institutions of higher education in teacher centers should be sought, thus establishing credibility among teachers for the inservice and continuing education programs offered by higher education.
- Greater attention should be given to adult learning and the need for adult education programs.
- More attention should be given to retraining college professors to work in different modes and settings, making them more effective in inservice education for school practitioners.
- Teacher education curricula must be re-examined to eliminate nonproductive programs and courses and to replace them with relevant programs to help teachers be more effective on their jobs.
- A more equitable funding formula for teacher education must be found; one that provides for inservice activity.

The New Challenges to the Profession

It is paradoxical that institutions of higher education face a demand for reform and revision of our teacher education programs, expansion and refinement of our staff development activities, and increased services to schools at a time when

inflation and declining support have caused financial crises. If, as we must believe from the evidence, teacher education must participate in new and different forms of inservice education activities, supply non-traditional types of adult education, become more field-based, and service practitioners more effectively, then the formulas for funding teacher education must be changed to take into account these non-credit-generating activities.

The trends in teacher education are in the direction of more informal activities, generated in a wide diversity of settings and using a wide variety of instructional personnel and instructional techniques. The movement toward field-centered, competency-based, profession-controlled programs are obvious efforts to reform teacher education. These movements have caused many in teacher education to reassert that teachers should be trained as professionals on a university campus, rather than as members of an occupation trained through the apprentice process.

The call for reform, or at least revision, of teacher education is producing a response. Institutions for teacher education are making serious efforts to:

- Provide effective, relevant, staff development activities for college professors to help them to see the changing face of teacher education and their new roles;
- Eliminate non-productive programs and courses and replace them with programs more relevant to the jobs teachers perform in the classroom;
- Produce instructional personnel for non-traditional settings, such as business, industry, government, and management, as well as for non-traditional schooling;
- Provide teachers who can perform effectively in our pluralistic society, and who are aware of the changing occupational, vocational, and professional roles of women;
- Emphasize the teacher/learner relationship.

Undoubtedly, the knowledge base is increasing, and the day when we can proudly assert that we have a professional culture is very near. I believe that the new directions are positive and that they will contribute to the improvement of teachers and teaching. Teacher education has never been more effective than it is today. As we continue to develop our professional culture, it will be even better tomorrow.

New Directions in Higher Education: The Open University of Venezuela

LUIS M. PENALVER
Former Rector
Open University
Caracas, Venezuela

The Need for New Forms of Higher Education

The dizzying increase of scientific knowledge, its growing technological application to the production of goods and services and the explosive increase in education in all countries have brought about profound cultural changes in large sectors of society. This has, in turn, produced great changes in higher education in the industrialized countries as well as in those on the road towards development.

This development of higher education has been translated into a multiplication of universities and other institutions of higher studies which have diversified sizes, levels of studies, length of courses and types of organization. In order to include them all under one term, the name "Post-Secondary Education" must be redefined to take in not only the traditional academic necessities, but a multi-form series of new socio-educative necessities like the following:

- short careers, necessary to form human resources for a middle level
- the continuous need for permanent education of professional and technical re-training, in the world of "disposable" professionals and the continuous changes in knowledge and techniques.
- the new demands of the adult student, of men and women who work and want and need to take advantage of a second opportunity for professional training.
- the universal extension of scientific and general culture demanded by a society which progressively raises its levels of knowledge and its intellectual and social standards.

To satisfy these new needs universities and other higher education bodies have continued to become more complex and expensive and are changing the traditional relationships between the levels of education, education itself, business and society.

This situation of higher education, which can be considered universal, creates critical problems and grave situations in underdeveloped or Third World countries for the following reasons:

- the explosive population growth
- the social-economic stake in the educative field and increased expectations of the role of higher education in the escape from underdevelopment and scientific and technological dependancy
- growing costs of education, especially post-secondary education, which can presently be sustained only with the greatest difficulty by the countries where the state generally bears the entire burden, or a major part of it, for education of its citizens
- the state of backwardness, inefficiency and traditionalism of institutions of higher education, which make institutional adaptation to new needs difficult.

In Search of New Paths

Under the pressure and needs referred to earlier, post secondary education has had to look for new paths to make changes in the orientation, organization, relations, methods and instruments which make up the institutions. New and experimental programs have been originated in higher education. The complexity of the demands and the need to renovate the strategies and methods of the teaching-learning process have created individualized instruction, programmed teaching, "student centered" institution, and the use of computers which permit a multiplicity of relations between the student and the sources of knowledge. The new methods of communication: press, radio, TV satellites, seem to be themselves like an answer to the new needs, especially when applied to teaching.

The development of new communication techniques using graphic and audio-visual elements allow for the quick transmission over long distances of the most varied educative messages. However, the use of this modern technology, not invented especially for education, requires an urgent adaptation and integration of the art of teaching and the teaching-learning processes. There is some difficulty and complexity in the management of these technologies. Their high costs today tend to go down in relation to their possible massive use.

The so-called Open Education, with the open university as a model, is one of the most interesting and promising of the new educative methods designed to face some of the new demands for educative change and development of poorer countries. The term "open" has come to include the opening or making easily available entrance to the university with easing of legal or selective restrictions; access of students of all social classes by free or almost free school expenses; possible admission to adults and working class people who have passed the traditional student ages of 19-24 years; the opening of student-classroom relations; moving toward a "university without walls" where the student does his studies at home or in his place of work; in professor-student relations, through the fulfillment of long distance teaching; and finally, the search for and establishment of efficient and active methods of self-teaching through directed study and more independence than the traditional ways.

Different institutions in the world have started using some of these methods; but it was the Open University of the United Kingdom which was the first to define the concept fully, integrating in one innovative unit all the different criteria for "open" previously expressed.

Open Studies in Latin America

In the past few years, higher education in Latin America has been subjected to the great pressures produced by the growing population, the tremendous growth of education in general, and by the ever growing demand for post-secondary education. The situation is similar in many aspects to the same complex demands in the developed countries; but is subjected, on the other hand, to the restrictions derived from the economic limitations of each of the countries in different situations of development. Phenomena particular to the Latin American university: repercussions of the great socio-economic inequalities, excessive militancy and politicization of students and teachers, a system of excessive autonomy and electoral rules for authority and the existence with few changes of a traditionalist structure in the universities, have aggravated this situation until it is a real crisis to which the governments, individuals and leading sectors of the universities are seeking solutions.

Within the movements for change which have come up in the past few years is the search for new institutional formulas, and the beginning of educative experiments.

Among the new roads to open education appears one possibility, the adaptation of models used in other latitudes of our continent which have overcome the numerous difficulties which this innovative method presents.

In *Mexico*, the Monterey Institute of Technology is one of the first institutions to introduce new forms of teaching-learning, personalized systems of instruction, micro-teaching clinics, and an open high school, following the lines of the open university. The National Autonomous University in Mexico City has also started, in spite of certain difficulties, an open university project. The Polytechnic Institute is using "teaching at a distance" to train technicians, and The Autonomous University of Guadalajara has started, with good success, a Learning Resource Center and Community Medical Education Center.

In *Costa Rica*, "The National University At A Distance" has been started with the help and cooperation of the Spanish school of the same name.

Colombia has made some attempts: "The Descholarized University" (University of Antioquia); the program of the University At A Distance of the University of the Andes and the Valley; and a new project, supported by the ICFES, of a University at a distance.

Brazil has started experiments separate from non-formal education, and the Ministry of Education and the Council of Rectors of Brazilian Universities have projected the creation of an open university of national coverage. Surely in this assembly we will have up-to-date reports on the progress of this interesting development.

The Catholic Universities of Santiago, the University of *Chile* and the Catholic University of Valparaiso are using educational television as one tool to broaden institutional coverage and introduce changes in teaching methods.

In *Argentina* they are conducting education experiments at a distance in the agricultural field (University of Lujan), and Buenos Aires University developed the method of "free studies" but following conventional patterns.

In *Equador*, Rene Moreno and Cochamba Universities have started TV education and extension courses aimed at the community.

In the past few years *Peru* has made important innovations in its educative system. The projects of "Higher Education outside the School" of the National Education University, the TV Education Center of the Catholic University, and the system of outside credits are projects where they are attempting open education at different levels.

The Case of Venezuela--The National Open University

In Venezuela, a profound transformation of higher education was necessary to meet new cultural development demands, among which we can list the following:

- New political and social conditions, plus the acceleration of economic development make a system of higher education which still favors the upper and middle class obsolete. This "memorist", exclusive education, primarily dedicated to a few traditional professions, did not provide for the formation of superior human resources necessary for economic and social growth of the country.
- Rapid growth of higher education is producing a great increase of graduates from this level.
- Important advances in universal science and technology cannot be incorporated and used in the country through the simple act of getting equipment, and learning new procedures but must be assimilated through a process of creation and adaptation of knowledge and techniques.
- Strong development of new socio-cultural patterns gives increasing value to education and training at higher levels, seeing these as tools for social mobility and achievement.
- Important findings of recent research in social science and management bring implications for profound changes and modernization of traditional pedagogy.

Nevertheless, Venezuela has tried to meet the earlier demands derived from the rapid growth of the educational system through the multiplication of existing institutions or their infinite expansion. Neither of these two solutions has been satisfactory, thus causing the present crisis in its higher education system.

In Venezuela, the National Council of Universities (NCU) considered it necessary and important to give support to "Supervised University Studies" (SUS), responding to the initiatives developed by various institutions of higher education such as: Free Studies of Simon Bolivar University, Supervised University Studies of the Central University of Venezuela; Supervised University Studies of Simon Rodriguez University and the General Studies Department of Zulia University. At the same time the NCU created the Commission of Supervised University Studies to coordinate the various experiences of these diverse institutions.

Creation of the Venezuelan National Open University

Higher education, with its growing problems of popularization, democratization, high costs and low relevance to the needs of national development, were the determinants which made the Venezuelan government decide to study and try new educative strategies, supported by the rational use of modern systems of multimedia instruction. This explains the creation

of an Organizing Commission of the National Open University (NOU), decreed in July of 1975, and which, in September 1976, introduced the first step in planning, which included justification and feasibility studies and a general outline of school structure.

The rapid expansion of the university student body and the great institutional diversity is due to the decided interest which the democratic governments of the country have had toward education in general and higher education in particular. This has been reflected in considerable increases in the public funds designated for education at the third level (university education). On the other hand, I should also point out the progressive increase in university costs per student per year.

National Open University (NOU)

NOU is proposed as an innovative and imaginative answer to collaborate efficiently in the resolution of the problems of higher education and to reinforce the influence of this level of studies in the development of the country.

The NOU offers an efficient new way, of high benefits and low costs, to take care of the growing higher education demand made up not only by student groups who come from high school levels but also--and each year the proportion will grow--of adults who work, professionals and technicians who hope to achieve professional qualifications or improvement or update their skills to a higher level.

The National Open University acts therefore as a powerful mechanism to cooporate in the formation and improvement of necessary human resources for national development.

The university will promote scientific and technological development and will be a collaborative and stimulative factor for the achievement of the national policy in science and technology.

Focus of the Instruction Model

Instruction in the National Open University is imparted through modules, which are structural sets of self-instruction units forming part of a course or study program. Modules include: printed material, audio-visual materials, individual lab experimentation equipment, practical assistantship in industry, orientation and academic assessment, lab experience in the National Open University or other institutions as well as social integration experiences.

The Instruction Design converts the curricular objectives into final learning objectives, analyzes them, determines the prerequisite knowledge and establishes the periods of neces-

sary instruction for student achievement. This leads to the determination of evaluative instruments and the logical and sequential ordering of instruction. Its contents are materialized in pedagogical methods and strategies which make up the learning module. These are subjected to a formative evaluation through student groups.

Evaluation at different stages, demonstrates the acquisition of knowledge, skills and dexterity. It will be continuous and used by the student (self-evaluation) as a valuable tool to measure the effectiveness of the instructional materials and to confirm how well he is meeting academic and professional objectives.

In each unit of the instructional module the student compares, through an evaluation test, his knowledge at the time of admission with the skills required by the institution; the difference constitutes the student's program of studies.

Non-Traditional Methods

There is an element in the Instruction Design of the NOU which receives special attention: the importance of interaction not just with instructional materials but also with people. Among the different means used to ensure adequate socialization for this massive "at a distance" system, are the learning group experiences which the student develops in the Study Circles, other periodic meetings in which they have intensive lab experiences, and interaction with academic personnel of the NOU and other higher education institutions.

The learning group experiences provide important benefits such as a permanent supervision of the learning development process. Local Centers will be set up to give logistic and scholastic support to the student in each phase of his learning. It will also be in the Local Center where the student will be given the means to the activities which the skill-development requires, using his own home, academic installation or his place of business or work.

One of the general means of reinforcement used will be radio and TV programs.

The radio programs as well as the television programs are to be broadcast in a systematic form. Before the broadcasts, the students will receive printed materials relating to the programs. This material will also be at the disposition of the Learning Resource Center users of each local center. The student can listen to the radio recordings and compliment them with visual material (slides, transparencies, etc.) or repeat the recorded broadcast on video-cassettes. The coordinator of the Learning Resource Center and the specialized personnel will offer constant information and assistance in the use of these resources.

Academic Areas and Professional Careers

The teaching-learning process of the NOU is achieved at various very different levels:

- *Introductory Courses* - designed to train the student in efficient learning techniques of self-control, self-direction and motivational elements to better academic results of study and increase his chances of staying in the system. These courses last a tri-semester. For those students who have deficiencies in some basic areas, compensatory courses will be offered.
- *General Studies* - constitute the formal entrance of the student in the study system of the National Open University. The purpose of these studies is to acquaint the student with an integrated method of thinking with accent on inter-disciplinary relations and professional orientation. Its academic content is organized in three periods of 11 to 15 weeks, with intervals of two and a half weeks for purposes of evaluation and data processing for the control of student registration. The curricular structure of General Studies has been subjected to a detailed inter-institutional analysis so that we have compatibility and transference between the NOU and the other universities and institutions of higher learning.

General Studies constitute a cycle of the curricular continuum of higher education common to all careers of the National Open University. They help to facilitate the development of the critical thinking process, the increase in creative capacity and the formation of a positive attitude towards the permanent application of knowledge, skills and talent. They also try to offer opportunities to the student to explore his activities and interests, and on the basis of this to orient himself toward a career with a more appropriate understanding of reality and of his vocation.

Basic Pre-Professional Studies - constitute the intermediate curricular level and have the purpose of taking the student into one of the four academic areas, and within one of the professions in that area. The evaluation of student behavior and the professional orientation which he has received in General Studies make it possible that his career choice will be the most ideal in accordance with his interests, attitudes, cognitive and personal development. Just as in General Studies, Basic Pre-Professional Studies will have three levels with a duration of 11 to 15 weeks each and the same intervals for the evaluation and control of the student enrollment.

Professional Studies - make up the third cycle of studies and have the purpose of shaping the student for a specific career and his entrance into the job market. It is made up of

stages of studies with a length of 11 to 15 weeks each, the number of the stages will vary in accordance with the career and human resource formation at the technological level.

Financial Aspects

The NOU was created as an Experimental University sustained by the Venezuelan state. Besides the annual budget given by the president and the congress, it will have income derived from moderate student fees and the sale of learning materials.

The first two of three years of operation will mean important investment in equipment and materials. For 1978 the government has authorized a budget of U.S. $15 million. For 1979 and 1980 we see increases of 25% to 30%. Later, the budgets will be more stabilized.

The NOU hopes to lower student costs. The national average is (U.S. $4,000) per student. With 15,000 students, the university hopes to reduce this cost by 25%.

Conclusion

Traditional forms of higher education no longer meet the pressing needs of a developing society for a wide variety of people trained at the post-secondary level. In the creation of its National Open University, Venezuela has taken a bold, innovative step, designed to meet these needs.

New Directions in Higher Education: A Return to Essential Objectives

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Historically, the essential objectives and functions of the University have been eight in number. My main thesis is that Universities the world over, having been largely diverted from their original historic functions; should seek new direction by restoring the original purposes. The eight functions which I shall discuss are as follows:

- The University as a center of original and critical thinking.
- The University as an integrating center that provides cultural unity and profoundness, integrates nationalities and creates and makes feasible new political models.
- The University as a center for the training of leaders.
- The University as a center of scientific research.
- The University as brain and mind of the contemporary state.
- The University as a focus of cultural and social improvement.
- The University as an equilibriating factor in the process of communication.
- The University as the moral agent responsible for positive social changes.

The University is like a marvelous building in which every floor is important. None of its essential goals can be eliminated. Present problems and crises in which administrators, philosophers of education, as well as politicians and governors are involved, will be overcome by a comprehensive, integrated vision of the

University. The real cause of the problem and crisis faced by the Peruvian and Latin American Universities is the lack of a broad and clear vision of what a University is. Lacking is a deep understanding of what its basic functions and objectives have been and will always be.

The definition of the Peruvian University as the "Second Cycle of Higher Education" implies the mutilation of the University model which inspired it. The North American University has as its basis General Studies, and as its culmination, the Doctorate; the academic degree granted to high-level scientific researchers. In accordance with the present General Law of Higher Education in Peru, these two functions have been separated from the University; general training has been transferred to the "Escuelas Superiores de Educacion Profesional (ESEPS) (Schools of Higher Professional Education) and scientific research to the "Instituto Nacional de Altos Estudios (INAE)" (National Institute of Higher Studies).

In my opinion, the "Second Cycle of Higher Education", is insufficient, limited and inadequate to our needs. Moreover, the Peruvian University appears to be a mutilated North American model. A University is far more than an educational process. The culture and science it cultivates are more ample and comprehensive than those of higher education and of education in general. Its function, as a factor of cultural unification, as a basis of a national and political integration, as a center of free and critical thinking, of scientific research, cultural and social improvement, is indispensible and cannot be substituted in the process of development of our country and of other countries.

The University as a Center of Original and Critical Thinking

The University has been, is, and I believe, will always be a center of thinking. Not only is it a center of abstract and uncommited thinking, but one that is conscious of the political and social situations, always analyzing and criticizing them, not only when facing theoretical alternatives, but also regarding real and vital social and political threats.

If the University does not criticize the society and government, it is not a University. That is what we have learned from the Greek experience - the "Academy", the "Liceum" - the profound message relative to the life and work of Socrates, Plato, Aristotle, Demosthenes, Xenophon, just to cite a few of the reknowned Helenic thinkers. They had influence not only at the time they lived, but created the essence of the philosophic, scientific and artistic culture of contemporary civilization.

These great philosophers, besides being educators, scholars and scientists, were politicians, in the full sense of the word. They possessed the critical attitude which is a characteristic of the University. They were deep, social and responsible critics of their society, political organization and culture.

To Socrates it meant death to criticize his society. In their verdict, Athenian judges accused him of corrupting youth as they said Socrates did and taught strange things. From the point of view of a tyrannical and unjust society, he taught the most dangerous thing: how to think and reason critically. The idea of the University as a center of critical thinking is the Helenic cultural contribution.

Plato and Aristotle both showed a similar committed attitude towards political and social problems. They criticized the society in which they lived.

Without the Helenic philosophy, we would not have the attitude which is demanded by freedom of thought and of expression, a condition of cultural and political life inspired in human respect and which is only expressed through free dialouge.

The University as an Integrating Center that Provides Cultural Unity and Profoundness, Integrates Nationalities and Creates and Makes Feasible New Political Models

The Medieval University was the melting pot of all European nationalities. The Medieval University - the idea of the University as a force supporting, integrating and expanding culture - culminated in the creation of a new and unique hybrid culture, a new model of society and State: the European nationalities and the Modern State.

The Church, of which the Medieval University was a part, was a center of thinking, as well as a center of political organization and decision. A new uniform and integrating conception or vision of the world had to be elaborated, able to give full explanations to different groups of human beings belonging to a diversity of races and cultures. The Medieval University tried to convert barbarian tribes into Roman and Christian citizens; to integrate into the Roman-German Empire racial and cultural elements - as different and opposed as Celts, Germans, French, Britons and Goths, and Arabs; as different and opposed as Roman and Helenic cultures as well as Arabic science and technology. Many ethical, cultural and political ingredients were required by the Medieval University in order to create and progressively develop a new original Christian culture. It was a titanic task; it was achieved on the basis of a new world vision: unitary, integrated and organic. This constitutes the most important contribution of the Medieval University. Cultural unification

and integration represent the originating fruit of the Medieval-Arabic University.

Few pretend that Latin American countries develop their Universities with the object of unifying culture, integrating nationality, creating original science and technology. There are those who believe that the University cannot fulfill its role until structural changes take place in society. Student strikes and agitation within the University, however, produce tension, social hate and struggle, thus carrying the country into collapse.

Every cultural and philosophic action of the University must be oriented toward a unitary vision of the world and of God, of a national or regional community full of significant values. Without a unitary cultural vision, we cannot create or change anything, especially in social and political fields.

The University as a Center for the Training of Leaders

Among the most important schools for the training of leaders we can mention: The Mongol Major State, the Persian Political-Military Command of Cyrus the Great, the training of Mandarines of the Chinese Empire, and of Samurais, in the Japanese culture. These examples show the necessity of the University to investigate how to prepare men who will be responsible to face the most important political and social problems and who will have a decisive influence over the historical and structural changes taking place in their countries.

There is the Helenic Roman contribution, as well as the Mongolic, Chinese, Japanese, Persian, Egyptian, Assyrian, Babylonic, and those of the ancient Peruvian and Mexican cultures.

In Greece, the "Academy" and the "Liceum" were the forgers of philosophers, politicians and strategists. Basically, it was Cicero's and Quintilian's Academy of Orators that produced the best politicians, orators and administrators, builders of the Roman Empire and Republic. In the Renaissance Age, Vittorino's Academy, (true precursor of modern pedagogy) trained statesmen with a universal and human vision of culture. Vittorino and Castiglione have greatly influenced University education and English ethics and politics.

The Romans developed the principles of administrative science that they used in building up a Republic and an Empire that lasted approximately two thousand years. We know how they used to train their lawyers, politicians, technicians, militaries, and best of all, their politicians and public administrators.

The essential task of the University is the concept regarding the training of leaders which should be efficient, opportune and consistent when making decisions beneficial to society.

It will be evident that the University through its political science, public administration and engineering of natural resources, all put to the service of the Country, will solve national and regional problems.

Instead of producing leaders of society able to understand its problems and help it progress, the Peruvian and Latin American universities, ill with politization and bureaucratism, have generated the "University Leader", who is not a graduate but prolongs his student life for decades. He agitates, and impedes serious studies by means of strikes He is an expert in offense and attacks, receiving as a reward for these deplorable acts, an employment for life. Political elements that infiltrate and govern the University as a result of politicization produce "bureaucratism." For this reason, politicized and bureaucratized universities spend more than a seventy percent of their budgets in administrative support rather than on educational programs. The indignation of the taxpayers will be fully justified as they note the waste of their funds.

The University as a Center of Scientific Research

In the XVIII and XIX Centuries the French and German Universities were the first to make scientific research an important objective of the University. In Latin America we have had a better cultural development than in the United States or Japan, but then we imported the encyclopedism and the Napoleonic University which led us to a political, economical, cultural and educational regression.

On the other hand, the United States and Japan became conscious of the deficiency of their educational systems and of their lack of good universities. In the early days of the U.S. republic American universities, were all of a very low academic level. Therefore, official commissions were sent to Europe to obtain information concerning the educational systems and methods prevailing in Europe. Approximately sixty thousand North Americans were graduated from the best universities in Europe, especially from the University of Berlin, during the period between the war of Secession and the First World War. They imported the best of the French, English and German universities and established a wise national policy for education. One of the conditions imposed on a new state, interested in joining the Union, was to dedicate a certain amount of its best lands to education. On

the basis of this law it was possible to finance, in advance, research and education at the highest level. Thus a tradition was started of providing an economic base to state higher education. This concept has never existed in our country. We used to say we were inclined to philosophy and humanism but we have never made such a demand on our provinces, institutions or communities. We are used to having the community make requests, but it seldom makes any contribution. This divorce between University and community, that starts for us in the XIX and XX Centuries, is precisely what the United States has avoided where a very fruitful relation is established between national politics and education at all levels and especially at the University level.

The North American system influenced the Japanese who possesses the highest rate of alphabetization in the world and more and better universities in relation to their population.

The Soviet University is also inspired by the German University and its technical educational system. The Russian University is one of the most severe in respect of quality and quantity of intellectual work, trying to surpass the most rigid rules and requirements of the North American and German Universities.

The University as a center of scientific research and professional development in the country's service, has recently reached us. During almost a century we were not aware of this fact, and believed that the University was attended only by people eager to obtain a doctorate degree for social status, more interested in formalities and ceremonies than in an effective and useful learning. However, in the XIX Century, the United States, Japan and Russia, at that time underdeveloped with a high percentage of illiteracy, during a period of sixty years, experienced an economic, political, social and cultural development. Why? Partly because they created a university system based on scientific research in the service of national development. They created science and technology, social development and their own economy.

A country whose universities do not carry out scientific research, to sustain their own science and technology suffers economically. They are forced into the payment of royalties for scientific and technological patents. This raises the costs of production to such an extent that products become non-competitive in the regional and world markets, creating unemployment and a low standard of living.

The University as Brain and Mind of Contemporary State

This is an innovation introduced by the University of

Berlin which was deliberately planned in order to serve as the thinking mind of the community and of the State. All significant problems were submitted to the analysis of their scientific research. The North American University follows this same model. The University has intentionally been created as the thinking center of the contemporary State.

Without universities, the contemporary State and the society, to which it serves, would be a State with no brain and a social organism without a thinking head.

It was logical that Germans, so inclined to scientific, artistic, and philosophical research, having reached full identification with the Greeks, who were rediscovered and admired by them in the XIX Century, would give a significant contribution to history as regards ideas, education and culture. This was done by creating a new university model whose essential objective was scientific research. They considered that every university professor should first of all be a researcher; it not, there would be no place for him at the University. They also thought that every problem of the community and of the State should be duly studied and researched by the University.

A new mode of contemporary State cannot be achieved without universities, as it would mean a State without thinking, critical and intelligent centers able to reason logically and to think and learn objectively. The contemporary State and its problems are so complex, that without intelligent and objective centers, it would be impossible to have the State function efficiently.

A just society and an efficient State are not possible if there is not a university to think deeply and investigate important national problems. This is true in political sciences and in education; the present State will not work well if it does not have its own brain, the University.

The above-mentioned countries have an advantage of a century and a half over us and we have not yet understood the importance of the university being the brain and mind of the contemporary State. The economic and social development of socialist countries, such as Russia and China, and of the United States and Japan, countries of different ideologies, races, cultures, has taken place almost simultaneous with the adoption of this role for the University.

I studied in the University of Wisconsin, whose motto is: "The Frontiers of the University are the Frontiers of the State". It took me some time to understand its meaning: that the University is the brain of the State because all State problems become the problems of the University, and the fundamental objective of the University is scientific research. Therefore, all important problems of the State are found out by the University.

30 THE QUEST FOR EXCELLENCE

The most significant changes in culture, society and political life are derived from Universities' ideas, inventions and contributions.

The University as a Focus of Culture and Social Improvement

In the contemporary society a University must serve as a center of cultural and social improvement. There is an open attitude of the University toward the problems of the community and a serious attitude of service. This position has especially been adopted by the North American, Soviet and Chinese Universities.

Mao-Tse-Tung's most profound concept as regards education is that it is an integration between theoretical and practical values. It is only on the basis of an integration between theory and practices that knowledge is perfected and learning is accomplished, and from this an interesting conclusion is obtained. Every educational effort must be at the same time a productive effort, and every productive effort must be an educational effort. In China this means that all schools are simultaneously workshops and that all factories are also schools. This is a very positive and successful educational policy. They combine education with work. The concept of the University being responsible for extending culture to the community is fundamental.

The University should not say, "I am the owner of culture and I will keep it." That selfish attitude was never held either by the Greek Academy or by the Medieval University.

The best Universities have always been generous and active leaders. They have never been passive or a mere reflection of the society in which they live. The institutional objective of the universities is to extend culture to everyone. No institution is in a position to say to the greatest majority of the country, "No, you cannot enter because there is no room for you," or "You cannot enter because you are not intelligent enough." This segregating position is unbearable.

Of course, there must be entrance tests, and there must be forms of selection, but not to exclude or segregate, instead to guide specific talents and aptitudes toward activities and professions related to them.

The University has to accept, as part of its institutional responsibility, to take culture and extend it to everybody, to people of any age, sex and region. In Peru, priority is given to adult education, education to Indians and rural inhabitants that speak other languages (half of the Peruvian population speaks "Quechua" and "Aymara"). Technical education must therefore be given in "Quechua."

Universidad de Lima is directly responsive to the needs of the Peruvian community through two actions organized by the Department of Social Aid: These are, Project Peru and the Non-Scholastic Higher Education Project. Through Project Peru, alumni and professors of the University, technicians and employees of the National Credit Cooperatives of Peru, and of the Organization of American Cooperatives, carry out educational programs which teach professions and skills, required by the community. The curriculum is not determined by professors but by means of surveys. In a period of three years, Project Peru has trained 45,000 pupils, and generated, at the same time, new employment, new cooperative enterprises and decisive improvements in their income and social status. The Ministry of Dwelling and Construction uses Project Peru to train people, thus enabling them to increase their income and acquire their own houses.

The Project of Non-scholastic Higher Education will provide university education by means of correspondence and mass media (radio, TV, movies, press, magazines), assigning a tutor-professor for each 15-20 pupils, and using the most advanced educational technologies including self-instruction.

The conversion of universities into centers of production must not scare us into thinking that the University is abandoning its institutional objectives. On the contrary, besides solving, in part, the financing of university studies and researches, it is normal that the University be responsible for industrial or agricultural projects, as its personnel is highly trained and puts into practice the concept of "learning while doing".

From an educational point of view, nobody would think of teaching any profession if one is not able to put it into practice. For instance, in teaching medicine, the professor should be prepared to cure, an administrator to administer any business, etc. The same would happen to any high-level expert in his professional field.

When planning high-level education, the community itself, the whole society, should not be taken as an object of educational planning, but as its subject with which one conducts a dialogue in order to find out its necessities. After studying what each community really needs, its development plans, needs of employment, and biggest problems we will then be in a position to plan realistically.

The University as an Equilibriating Factor in the Process of Communication

The Latin American University should become the equilibriating element of all communication systems pertaining to our present society. For example, government, production, and education are processes of communication between governors and citizens. Communication, of critical importance to the success of the government, can sometimes fail. To issue laws or decrees does not mean to govern. Sometimes because of a lack of communication between governors and citizens, between managers and employees, between teachers and pupils, serious social and political problems result.

A problem is not solved just because a law is issued. There is a transposition of a real problem to a formalist act that is thought of, but which does not reach the great majorities because it was not adequately communicated and therefore does not affect behavior. Although our educational reform can be considered good, it has a defect. Possibly eighty percent of our teachers and leaders do not understand the law. Why? Because this law contains many advanced concepts which are not at the level of comprehension of an average teacher or principal. If the problem of communication between governors and citizens is not solved there cannot possibly be a good government. If the problem of communication between teachers and pupils is not solved, there is no possibility of achieving high-level educational processes or universities. If the problem between employers and employees is not solved, there cannot be either a good production or a suitable economic development; if the problem of international relations is not solved, there would be a war instead of peace.

In all these systems of communications, a conscious university should be the equilibriating element providing society with truth and knowledge, because when big errors are made, the University is the first one to denounce them. For instance, "that economical concept is totally false"; "such a technology is obsolete"; "an economical deficit cannot be compensated with an arms race"; "the needs of employment are not solved by the increment of public posts"; "such a project is not feasible", etc., all require analysis.

Sometimes good public officials or politicians make assertions which are completely out of the realm of reality. It is then that the University, very respectfully, must clearly point out that these assertions are wrong, giving them the reasons thereof. This equilibriating role of the University serves to establish communications; not simply to criticize, but to have the problem understood and solved.

The University as the Moral Agent Responsible for Positive Social Changes

If the University is the thinking mind of society, then it must also be a moral conscience, responsible for positive social changes, a promotor of high-level forms of life for working classes, a factor of national integration and social mobilization.

There are a number of important elements necessary to reconcile all previous roles with those effectively required by our Latin American societies.

First, the Latin American University should be the house of the creative spirit. The University cannot be a repetitive center. Usually universities are in crisis because they have become boring, because textbooks are repeated instead of being examined; and confronted by great national problems, universities evade them. The University must be the center of the creative spirit in every field; in national and social science, in philosophy and in arts. In the presence of bureaucratism and of politicization, the University will only be saved by the emphasis put on its creative spirit.

Another fundamental aspect of the University activity is that of the University as a conscious and responsible agent of all positive social changes. The University, as the most intelligent center of a community, cannot be indifferent to the great moral problems of the community, and injustice is a moral problem. The University cannot say, "This does not concern me. I am dedicated to teaching and researching only and whatever refers to justice or unjustice is the concern of another sector of the society". The University as a moral conscience and as a moral agent must be a reacting center for big human and social problems.

Section Three:

INNOVATIONS IN TEACHER EDUCATION: INTERNATIONAL PERSPECTIVES

The long and complex process of reorienting a system of education from exclusive preoccupation with an elite to concern for all, requires profound systemic changes. Most countries of the world are now at various stages in reshaping their respective educational establishments in this direction. Section Three deals with innovations in teacher education designed to bring this aspect of higher education in line with national drives for educational equity. The section is introduced by MAIA who deals with educational innovation in the context of Brazilian society. Using examples from the eleven county presentations which follow, HAYDEN identifies the major characteristics of the process and content of innovation in higher education.

Eleven writers next present descriptions of the latest developments in teacher and higher education in their respective countries; SOLARI deals with Argentina, DUNKLEY with Australia, de LANDSHEERE with Belgium, FISER with Czechoslovakia, KOTB with Egypt, OWUSU with Ghana, SURAKHMAD with Indonesia, LIJEMBE with Kenya, KIM with Korea, ADARALEGBE with Nigeria, and REANGSUWAN with Thailand.

Brazilian Culture and Educational Innovation

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Regarding Brazilian society some facts are very eloquent. For instance, we have more than 100 million inhabitants: Indians, Portuguese, Africans, Dutchmen, Frenchmen, Jews, Italians, Japanese, Lebanese, Korean, Chinese, Finn, who seem never to agree on anything. Suddenly, however, differences are forgotten while all these people paralyze the country to see the World Soccer Cup matches, or to dance and sing at Carnival. So, there are at least two facts on which Brazilians agree: soccer and samba.

What are the educational foundations of this unanimous agreement?

Our territory was invaded by Portuguese conquerors in the early sixteenth century but for almost fifty years there was not the slightest concern for education. The main idea was to use the land as a source of natural riches or a warehouse, a fate of all Latin America. As a well known historian said, "The Spanish came to America holding the cross with one hand and the sword with the other."

Perhaps we were luckier. The Portuguese came to Brazil holding the axe with one hand to cut our precious wood (after which our country was christened - the pau brasil) and kept the other hand free for many other activities. Somewhat loftily we could say that the free hand was used among other things to caress the beautiful Indian girls who were (as an ancient writer says) "so lovely in their nakedness that did not offend or induce to sin."

Formal education begins with a Jesuitic pattern - only for the privileged - the colonizer's children. Gradually education spread to include the local Indian population. Educational innovations were undoubtedly meaningful at that time. Co-education in Indian schools was introduced and the Greek language was substituted for the "Tupy" language, spoken by the greatest number of tribes. These, considering the time, 1549 were deeply innovative.

Teacher training is relatively new in Brazil. Until recent years secondary and university teachers were regarded as other professions drop-outs. More than that, they were seen as "losers." This seems to have been true, since the physician who had no patients turned to teaching; the engineer who could not find sponsors for his projects turned to teaching; the lawyer turned to teaching. Teaching was the cultural no-man's land. Regardless of the few happy exceptions, teaching was an activity performed by a majority of frustrated professionals. We had a picturesque witness of a XVIIIth century author who wrote, "nothing in this land is as bad as teachers, people of no quality, upon whom supreme indifference is bestowed and who are despized by the most."

We have a lot to fight, even nowadays, to change this attitude. Fortunately our country is unique in its lack of prejudice and a general democratic approach toward educational opportunities. For example, we have historical evidence of a Portuguese king threatening to close a school in Brazil for refusing black, Indian or mulatto children. We can be proud of this fact.

Around 1930, the first modern pedagogical innovations were introduced in Brazil. Up to 1930 Brazil was representative of a European cultural tradition. Then Brazilian educational models shifted to North America. Little by little, Brazilian educators have come to realize they have to seek for genuine Brazilian solutions. This does not mean we are or intend to ignore the experience of others. On the contrary we are convinced that now at last, Brazilian teachers are aware that we have a lot to learn from other countries experiences but we cannot transplant their solutions. Education is a vital, organic reality and as different organisms when ill react differenctly to the same prescription, educational innovations have to be adjusted to cultural conditions. This means that before adjusting we have to know them thoroughly.

There is another kind of danger; communication media speed the diffusion of innovation, and keep us under the spell of technological hardware. Teachers' reaction to this can be divided into two main groups. They are either spellbound or they oppose it radically. Technology, to this latter group, is viewed as an inhuman monster that invades our schools to robotize our youth and we hear such expressions as dehumanized

teaching. In fact, what kind of human teaching is there when a teacher reads or lectures formally to a group of students? The fact of having the physical presence of human beings is not enough to humanize teaching. Education is essentially interaction.

On the other hand some teachers have the opposite opinion. Teachers think that hardware will by itself solve any problem. This can be compared to the primitive attitude of fetishism. Teacher training is the key.

A well trained teacher is perfectly aware that educational technology represents means. Technology allows the teacher to take advantage of greatly expanded resources and to make the most of them. To associate technology only with hardware is an extremely naive attitude such as thinking of telephones or hypodermic syringes as good or bad in themselves. As far as we are concerned we can make telephone calls to bring peace or to begin wars; we can use a hypodermic syringe to save someone's life or to make someone a drug dependent. Good or bad are ways and purposes of education and not media or equipment in themselves.

The University is an essentially conservative institution. It plays the role of guardian of the cultural spirit. To what extent can the universities be open to innovations? This is the great dilemma of Brazilian education nowadays. Since our universities are historically recent we have no definite answer to the question above. For example, to what extent can we accept a project or instructional modules without the danger of confusion and disorder in the whole academic structure?

We began by saying we were a complex mixture of different people with different qualities out of this rich social, ethinic, cultural background, we intend to draw upon vast amounts of ingenuity, creativeness and perserverance in creating a superior Brazilian educational system.

Accelerating the Spread of Innovations in Teacher Education

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The Imperative of Diffusing Innovations

As noted historian Paul Valery observed: "The trouble with our times is that the future is not what it used to be." This is a particularly poignant truth for those persons charged with the awesome responsibility of training the world's teachers, in whose collective global hands rests the preparation of the offspring of a species and planet in turmoil-a planet with burgeoning populations and shrinking resources. Increasingly, teachers and those who teach these teachers are turning to comparative and international perspectives on improving the quality of teaching. Accelerating the spread of innovations lies at the core of the activity. Without successful diffusion of processes and models, the profession faces a bleak future--one characterized by expanded expectations and diminished performance.

The case studies of innovation in such varied settings as Kenya, Indonesia, Korea, Belgium, Boliva, Egypt, Australia, and Thailand provide ample, in-depth treatment of this issue: improving the quality of teaching. This paper attempts to pinpoint commonalities in the case studies by summarizing the needs which are producing innovations and by analyzing the diffusion process through which innovations seem to spread more effectively. To avoid tedious repetition of what has been so eloquently presented by the authors of these case studies, this summary will be schematic and superficial, for it treats a very complex phenomenon.

Pressure Points: Meeting Expanding Demands

Educators are running frantically to stay in place these days. This is not to deny the great record of accomplishment, but to underscore the first rule of human endeavor: success breeds expectations, which fuel further demands, which increase ever more complicated challenges and needs. Once universal literacy is accepted as human right, literacy is superseded by other educational goals: equity in access to education, special education for minorities and others, education for national participation and education for the world of work. Education's challenge is to meet disparate needs with inadequate resources and imperfect systems.

Certain central paradoxes reappear in the case studies that follow and seem to lie at critical pressure points in the system-pressure points where innovations should become more fruitful and multiply. In no special order of appearance, here are summarized some of the all-too-familiar demons which plague the house of education and represent special points of access for the courageous innovator.

Too Much Is Not Enough

Structural imbalances characterize many educational systems. In Thailand there are unemployed teachers, yet there is a shortage of teachers for remote rural areas and for scientific, technical, and vocational fields. Oversupply and undersupply, like inflation and unemployment, make unlikely, yet depressingly familiar bedfellows. Too many teachers of one category often mean too few in another, and retooling the numerous types is a difficult and costly prospect.

Centralization and Local Autonomy

In most countries, education is highly centralized and bureaucraticized as well. Standards, curriculum, and teacher training are often developed at the top of the system and are then superimposed on regions, provinces, on states, on cities and villages far removed from the experience and sympathies of ministry officials. While there is a need for organization and common purpose in any nation's educational system, too much top-down movement may stifle initiative and innovation at the system's micro-levels. Local realities and values must somehow be infused in the education of rural youth, for example, or else the classroom becomes a cauldron of discontent where the young are lured to metropolitan centers in an inexorable search for

a better life. On the other hand, fragmentation of curriculum and authority is equally dangerous and must be avoided if education is to build a viable nation-state.

Credentials and Competencies

Given the demand for teachers in many nations, the numbers of persons being trained and certified to teach in the schools have truly exploded. Protecting quality, while guaranteeing quantity, is an age-old dilemma in all fields. Unfortunately some "diploma mills" in education spew out credentials and diplomas without due regard for competencies in pedagogical areas. In Kenya, there are 30,000 untrained teachers in the primary schools, and many secondary school teachers who are weak in subject areas are awarded diplomas. Kenya is not a unique example: this dilution of competencies results from pressures to credential an emerging mass of teachers for the schools. Innovation in pre- and service training is a necessary antidote.

Responsibility of Teachers and Socio-Economic Status

In nations both rich and poor, teachers bear a unique national responsibility: the effective education of future generations. Yet despite this awesome expectation, teachers are generally low on the socio-economic totem pole. There is a dismally small correlation between social function and social status.

In Thailand, teaching was viewed as one of the lowest-ranked jobs in terms of socio-economic measures. It was the last choice of 85% of entering university students who were asked to list their preferences for future careers. The inverse correlation between being a teacher and being a "success" in the popular mind cripples education's ability to attract the best and brightest into the profession. Innovation alone is unequal to the task of redefining a link between social status and social purpose.

National Identity and Cultural Suicide

The tension between education for nationhood and cultural survival runs high in many multi-ethnic, multi-racial, and multi-lingual societies. The dominant culture in terms of political ascendancy may be less sympathetic to the centrifugal forces at work in a society and may consciously utilize the schools as a cultural leveler. This was certainly the

motivating thrust of education to Americanize immigrants in the "melting pot". A national curriculum in pluralistic societies creates inevitable battles for educators. The Bolivian example of 60% of the rural population speaking Aymara, not Spanish, finds its echo elsewhere, in many countries, both developed and developing. Educators must develop effective pedagogies which incorporate local variation yet do not isolate minority populations from opportunities for full socio-economic mobility. Unity vs. diversity questions will be with educators for some time to come, requiring patient and humane consideration, as well as professional attention.

Achievement and Frustration: Keeping Pace

Admirable progress and greatly increased investments in education are evident in all of the cases presented. In Egypt, 83% of all eligible children are enrolled in primary, compulsory education, while in Kenya, fully 30% of the national budget is invested in the educational sector. In Indonesia, with 26,000 teachers graduating each year, there is still a shortage of over 35,000 teachers. The point of these statistics is to demonstrate that more money, more teachers and more schools are simply not enough. Innovations must address new means of providing educational outputs without sacrificing motivation and quality. Educators work in a frustrating and impossible universe where accomplishment in supply is perennially offset by an escalating set of demands for more, more, more. Bottlenecks are many: success at one level breeds trouble at another. Thus, increased output at the primary school level has resulted in an unsatisfiable demand for secondary, and eventually for higher education. And so it goes. Access to educational opportunity is a global challenge where innovation must focus on the bottlenecks in the system, in order to buy social peace in societies where education and social mobility are slosely correlated.

Nonformal and Formal Education

The demands facing educators have spawned a host of programs lumped collectively under the term "nonformal" education. At times, "nonformal" connotes non-school, although this is not always the case. Care must be taken so that formal and nonformal education programs complement rather than compete, with students passing from one to the other as needs dictate. The challenge for innovators is to provide quality education in both formal and nonformal arenas. If nonformal education is seen as a second-class education and access to formal, pres-

tigious programs is the desired dream, educational policy-makers will have trouble. Skills, social mobility, and flexibility must be hallmarks of the entire educational enterprise if both formal and nonformal programs are to meet educational demands within varied national settings.

Values of Teachers and Needs of Students

Too frequently, university teacher educators are out of step with the needs of their students, look down on education and work on esoteric research rather than the applied research desperately needed in the field. Besides this "Ivory Tower" problem, another gap exists between teacher educators and the schools themselves. All too often, teacher educators are physically and professionally isolated from the vicissitudes of the classroom, leading to a value-set in teachers' minds which in turn isolates them from the local reality or context.

Emphasis on Outputs and Neglect of Progress

By definition, most innovations in the field of teacher education must focus on the challenge of expanding scope without undue sacrifice of quality teaching. All the cases cite impressive output data related to the aggregate growth of numbers--numbers of students at all levels, numbers of schools, numbers of teachers being trained, and so on. Yet more careful analysis of processes is needed for innovation to be accelerated. Gross output data is insufficient. As Sandefur explains in "New Directions for Teacher Education: Professional Growth and Development" the process must be translated into certain sub-functions: the identification of skills, the design of delivery mechanisms, and the creation of built-in evaluation schemes. Without a complete strategy in process terms, many innovations are never replicated. Physical structures--laboratories, libraries, texts and sophisticated equipment can remain underutilized or left idle.

Similarly, if process is not fully taken into account, interconnectedness of phenomena may not be fully appreciated. Although no single problem is completely self-contained and amenable to total solution, achievements can be deepened and quality of outputs enhanced by improving the process itself and by targeting innovation more deliberately. This implies a better data base for policy-making purposes with less emphasis on final outcomes in terms of numbers and descriptive

data, and more emphasis on the creation of special indicators and process data. Also, professionals must have access to such findings, be tied into an applied research network, and reach out beyond the narrow confines of their own speciality.

The Educational System and Structural Dilemmas

Nothing so conspires to inhibit innovation and the diffusion of innovations as does the overall structure of the national educational system itself. In Thailand, three separate administrative units affect different points in the educational process and create difficulties. In Korea, upgrading has occurred so that there now exists a Bureau of Teacher Education and Certification. Kenya has developed a Kenyan Education Staff Institute to improve the system. Other examples could be cited from many nations, which represent welcome structural and political improvements to accelerate the development and diffusion of innovations in teacher training at all levels and in all fields.

Without careful, integrated planning, innovation itself can become part of the problem. Foreign educational models can be inappropriate cultural transplants which distort systems and values. Successful adoption of foreign innovations seem to be based on redesigning a neutral process to assure culturally appropriate content based on national needs and realities.

Foreign metropolitan systems can be seductive in offering large-scale technical assistance projects resulting in the establishment of expensive infrastructures which wither away once-large doses of external financing terminate or are phased out.

Another danger related to the international diffusion of innovation concerns the migration of talent, the mass movement of professionals who must go abroad for advanced training. International collaboration and training opportunities are welcome options, and they should be pursued whenever necessary and possible. The point is not to condem these migrations, but to make certain that the training is appropriate and that professionals return to their native lands and can be reabsorbed into educational systems. Finally, foreign training opportunities should not be developed to the detriment of the creation of indigenous systems. The goal should be one of increased self-sufficiency, not dependency, in the years ahead.

Accelerating the Spread of Innovations

Innovations, in and of themselves, are no Messiah which will lead educators out of the desert of resource shortages and into

the promised land of abundant access and total effectiveness. Indeed, innovation for its own sake can be dangerous, especially if by innovation educators find themselves involved in successive waves of jargon or faddishness. While it is difficult to do justice to the many insights and impressive data in the case studies, it is possible to single out some of the most salient points which have accelerated the spread of these innovations.

Changes Needed in the System

Innovations in teacher training and in educational delivery systems have been stimulated by the challenge facing educators the world over. The needs are so great and the demands so relentless that traditional education circuits are overloaded. Educational systems simply cannot meet expanded demands for access to education at all levels. Linking education to productivity in economic terms and to participation in political terms requires change--diversification of the curriculum and better delivery mechanisms. Because funds are perenially inadequate, coordination and efficiency also dictate innovations. Reaching unserved populations, adults as well as children, requires skill and energy as well. National integration, coupled with respect for cultural pluralism, challenges traditional modes of thought and action in education. These are challenging if not turbulent, changes.

Conditions Needed for Change

Successful innovation and effective spread of innovation apparently depend on these vital conditions:

- Leadership
  Educational leaders and Ministry personnel must actively assume responsibility for developing improved systems. Policies must reflect higher standards of achievement. Examples are given in these case studies: Certification and appointment systems in Korea have been restructured; lower certificate and twilight programs in Thiland have been phased out; entrance requirements for institutions training primary teachers have been raised in Kenya.
- Motivation
  Without incentives and a reward system, need is not sufficient to motivate the acceptance of change. Examples of motivating strategies in the case studies demonstrate that teachers can be rewarded both professionally and financially.

- Needs

Innovations will spread only when authentic needs are met: when teachers see that change helps them be more effective, when new clients find services previously unavailable to them, and when officials cope with budget restrictions. If change is seen as unrelated to performance or as yet another unwelcome intervention on the part of officials far removed from the classroom, change will be resisted and feared.

- Appropriate Scale and Content

Policies and innovations developed at the national or macro level of an educational system, must be fine-tuned to be financially and professionally feasible at the local or micro level. The profile of resources should not be entirely bound by econometric models. Resources should also include those persons and funds which can be developed locally.

- Professionally Useful Models Capable of Replication

Egypt's Science Teaching Improvement Centre and Korea's Pilot College System both illustrate the potential of developing high-quality professional schools. Materials development, as shown in the Kenyan case study, similarly requires economics of scale and the development of high-quality centers which are charged with design and diffusion responsibilities.

- Diffusion and Evaluation as Built-In Components of Innovations

Spreading innovations should not come as an afterthought but should be part and parcel of any design for change. Diffusion networks, such as the Korean model of hosting national seminars on innovations in teacher education, are necessary complements to innovations, as are evaluation schemes aimed at refining innovations in practice.

- Linking Decision-Makers and Practictioners

Policy-makers, decision-makers, and top officials in ministries--especially in nations where centralization characterizes the educational process--must include practicing educators, administrators, and teachers in the design of innovations. Policy-makers, implementers, and publics served must equally participate if the resulting innovation is to be widely accepted.

Summary

Stasis does not characterize the educational enterprise in any country. Education is a dynamic social, economic, and political indicator, intimately linked with the very viability of the nation itself. Changes and innovations will ever be required to enable educators to meet their societal responsibilities more adequately. No people or culture is immune, whether rich or poor.

Any outsider attending this 1978 World Assembly of the International Council on Education for Teaching (ICET) is immediately struck by the enormous progress which this gathering has achieved in the past decade. The rich variety and sophistication of approaches in teacher education programs and the dedication of participants represent the nucleus of a global network of professionals whose collaboration is of deep international importance. ICET itself is a global diffuser of innovations involved in exchange of information, training activities, building of consortia, and maintenance of linkages with international organizations, such as UNESCO and the OAS.

With expanded funding, ICET might wish to initiate its own innovations: building UNESCO data base and satellite data retrival system in teacher education fields; undertaking pilot projects to improve the management of innovation and diffusion; designing clearinghouse for more systematic collection of cases of successful innovation and diffusion; and implementing a series of traveling seminars and workshops to conserve and expand upon the momentum and knowledge gained at the annual international world assembly. By helping countries gain access to the experience of others through the development of international, professional networks, ICET can uniquely serve the world's best educational interests. By establishing regional centers, ICET might continue to assist educators around the world in the challenging task of accelerating the diffusion of innovation. Through international, cooperative efforts, the rhetoric of theory will find its natural outlet in the satisfying reality of accomplishment.

New Developments in Teacher Education: Argentina

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Historically, the dominant concepts in education derived from philosophy and ethics; pedagogy was rooted in an elite, religious discipline. At the beginning of the 19th Century, these concepts expanded to become multi-faceted and inter-related sciences. Educational methodology began to be developed, focusing on practical activities which in turn were based on concepts and theories drawn from varied areas of knowledge.

As a consequence of this trend in the direction of an applied science, educational methodology now requires that the teacher enrich his knowledge through technical competence in imaginative and effective teaching procedures. Thus, a number of innovations have in recent years been introduced into the teaching profession. Among them are changes in methodology, and technological advances in school communication, the redefinition of instructional priorities and school organization, changes in evaluation procedures and alternative types of education.

The tradition of rote memorizing is being transformed into an emphasis upon thinking and doing. As a result, school authorities have been forced to formulate and implement plans for pre-service and in-service teacher training; and for an overall quantitative and qualitative improvement in educational services. Teachers must be active participants in this process and, as role models and change agents, must assume the responsibility for their own continuing education.

The Education Code for the Province of Buenos Aires states that teachers have an inherent obligation to improve their cultural and pedagogical competence and understanding. In recognition of these rights and duties, the State provides

* Presented at the XXVI World Assembly, Korea, August 1979

fellowships for cultural and professional teacher development. The pre-service and in-service training projects sponsored by the Buenos Aires Ministry of Education, both voluntary and compulsory, consist of meetings, workshops and courses, usually on school premises, when classes are not in session.

During 1978, 291,203 teachers from various schools and instructional levels participated in in-service training, an average of 2.9 courses for each of the 100,000 Province of Buenos Aires teachers.

Educational Research Centers in the 121 school districts of the province provide in-service teacher training. Numbers of teachers involved have increased dramatically. In 1978, 3,853 teachers participated in such center programs; in 1979, the attendance increased to 9,542 teachers. During the first four months of 1979, there was a total enrollment of 11,494 teachers in various in-service training activities. The Ministry of Education has contracts and agreements with other institutions and organizations for the purpose of providing teacher training. Among these are the Universities of La Plata and Mar del Plata, as well as several foundations, among them, the Foundation for Agricultural Development. One of the most important means to improve teaching is the Interchange Program between the Province of Buenos Aires and the American Association of State Colleges and Universities (AASCU), which has thus far made it possible for 110 teachers to study in American colleges and universities. Upon their return, these teachers prepare reports and case studies, which will lead to significant innovations in the educational system of the Province.

Teacher in-service training projects have a number of objectives. They aim to reach all teachers in accordance with their educational needs. They are designed to provide an ongoing, yet permanent process to relate to all aspects of the teacher's personality - human, cultural, professional. They attempt to attain a satisfactory level of competence and certification. They combine pedagogical theory and professional practice and aim to stimulate the entire education profession-supervisors, technical assistants, professors, teachers. We are dedicated in our efforts to maintain a high level of professional competeness among our teachers.

In 1980, the XXVII World Assembly of the International Council on Education for Teaching will be held in Argentina in Mar del Plata. The conference theme is "Education For All, Preparing Teachers for Individual and Social Needs". As host to this World Assembly, which will convene August 11 to 15, 1980, I wish to invite all persons concerned with the preparation of teaching personnel, school administrators and specialists from all countries throughout the world to attend.

New Developments in Teacher Education: Australia

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Teacher Education in Institutions of Higher Education

Most preservice teacher education in Australia is provided in two kinds of institutions: 80 colleges of advanced education and 18 universities. Until July 1973, a great number of the colleges were single-purpose, specialist teachers' colleges under the direct control of the State Department of Education. At this time, many of these colleges became multi-purpose institutions. Both the colleges of advanced education and the universities are federally funded.

The colleges of advanced education usually offer three-year, preservice programs combining elements of liberal arts study and teacher education. Originally, most of these programs were concerned only with training elementary school teachers; today many also train secondary teachers, particularly in specialist areas such as physical education, art, music, manual arts, and home economics. More recently, colleges have had an increasing involvement in teacher inservice training through their offerings of part-time, post-graduate diploma courses for teachers in areas like educational administration, special education, ethnic studies, etc.

The majority of universities offer a three or four-year degree program followed by a one-year "diploma in education" course of study. Some of the newer universities offer four or five-year courses in which the degree and diploma segments are combined and taught concurrently.

Accreditation

Although college programs vary both in style and content, they have wide acceptance because all are registered by the Australian Council on Awards in Advanced Education. The Council on Awards is a national body which was established in December 1971. Before registering an award, the Council requires that the accrediting authority considers each program with regard to the following:

- the general academic practices and standards of the educational institution
- the objectives and the methods adopted to achieve those objectives
- the standards of admission
- the duration of the course appropriate to the standards of entry and course objectives
- the breadth, depth, and balance of study in the subjects and the amount of intellectual effort required
- the methods of assessing student progress
- the relative emphasis on the teaching of skills in relation to the study of the discipline
- any arrangements for practical training and experience
- the teaching staff: numbers, professional qualifications, experience, educational expertise
- facilities needed for particular courses, including equipment, library, laboratories, workshops, and other instructional resources

By granting autonomy to colleges and introducing accreditation, a controlled environment was provided in which educational change and innovation could take place.

A New Focus on Quality of Teacher Education

At the present time, the supply and demand of Australian teachers is changing from a greater demand to a greater supply of teachers at both the elementary and secondary levels. The most immediate consequence of this change is that teacher education institutions will have the opportunity to shift their focus from quantity to quality. Though reduced numbers may bring personal anxiety for individual staff members, it should bring also increased vigor and preparedness for change and the opportunity for developing and improving the quality of programs.

A quality teacher program has a vital part to play in both reflecting and stimulating change by introducing prospective teachers to new ideas and approaches.

Innovations in Teacher Education Programs

Because of the growing realization in recent years of the importance and complex nature of teacher education, many institutions have attempted to improve their teacher education programs by making changes. The study of these recent changes and innovations taking place in teacher education in Australia was the basis of a major project supported by the Australian Advisory Committee on Research and Development in Education with Professor C. Turney of Sydney University as the chief investigator.

Categories of Innovations

In this study of the directions, processes, and problems of innovation in teacher preparation, Turney and his research team categorized the innovations investigated into the following six categories:

Organization and Administration. Innovations concerned with organization and administration of the institution and its teacher education programs might involve staffing arrangements, control, decision-making, and communication.

Total Program. Innovations concerned with the introducation of a comprehensive program or trial of a scaled-down version might involve formulating objectives, organizing principles, and developing the content and methodologies of the courses.

Curriculum Specific. Innovations concerned with specific aims, organization, or content areas focus on a single curriculum component, course, or unit of a program.

Technology. Technological innovations are sometimes linked with specific courses, featuring the use of media or special materials.

Evaluation. Evaluative innovations are concerned with student selection and assessment procedures, diagnosis, and remediation of student weaknesses, graduation requirements, and course and program appraisal.

Methodology. Innovations concerned with improved approaches to teaching and modes of learning can be broken down into ten subdivisions: (1) microteaching, (2) particular curricular approaches, (3) special cooperating schools arrangements, (4) practice teaching, (5) interdisciplinary approaches, (6) self-instructional and programmed learning, (7) practical studies of ethnic and minority groups, (8) development of specific skills, (9) services offered in special or remedial education and (10) provision of methodological exemplars.

Analysis of Innovations

A detailed analysis of the nearly three hundred innovations investigated is given in their report, *Innovations in Teacher Education*. This report contains a detailed set of case studies of the more important innovations.

If innovations are regarded as purposeful and planned change designed to improve education in some way, then some measure of their effectiveness can be made. One possible analysis of innovations is the *Planning-Research-Development-Diffusion Model* of the innovation process developed by the Center for Educational Research and Innovation (CERI, 1973). This model includes the steps most commonly accepted as forming the process of innovation: problem identification and definition, innovation planning, innovation programming and development, experimentation, evaluation and revision, dissemination and production and implementation.

Common Problems with Innovations

While Turney's study of innovations in teacher education within Australia indicated a great variety of carefully devised changes, the outcomes were not as successful as the model might indicate. Analysis showed much improvement was needed to support the various steps of the innovation process in its full application. Problems were not always carefully identified and defined. Objectives were not clearly specified and pursued. Planning strategies were sometimes clumsy. Evaluation and revision procedures were often ineffective or omitted. Provision for dissemination both within and outside the institution was generally poor. Financial and moral support for the innovations and their schemes were frequently minimal.

Future Developments in Teacher Education

From this extensive survey of innovations, the researchers concluded that urgent attention needed to be given to the following goals:

- integrating the theoretical and practical concerns of teacher preparation through situational teaching of theoretical knowledge,
- forming new relationships with schools through cooperation between college and school staffs,
- training supervisors for work with student teachers, which focuses on: goals of supervision, dimensions of the supervisor's role, counselling the individual, conducting group conferences, observing and analyzing teaching, isolating problems and revising solutions, providing feedback, and evaluating performance.

- focusing on issues being debated in the political, educational, and public sectors, including: unemployment, particularly in relation to vocational education's role in schooling; "back-to-basics" in literacy and numeracy; and equality of opportunity, particularly in relation to multi-cultural education and education of the handicapped.

These developments will have major implications for teacher education programs.

Changes in teacher education programs that will emerge to meet these and other challenges will more likely be found in programs to develop prospective teachers' "competent selves." In recent years, teacher education programs have concentrated on developing competence through skills-training programs, but they have given little attention to the more generalized concept of the "competent self."

It is expected that training institutions in the future will give less attention to developing course structures involving the development of skills and instead will provide conditions in which each student will be able to pursue his own development, avoiding the "lack of fit" evident today between these two dimensions.

New Developments in Teacher Education: Belgium

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While many countries are suffering from a teacher shortage and lack of qualified educational staff, the situation in Western Europe is very different. Most countries have enough or too many teachers and practically all of them have been systematically trained for long periods of time.

Change in Quality of Recruitment

From about 1850 to 1950, becoming a primary school teacher for most youngsters from families of low socio-economic states, meant climbing high up the social ladder. Access to higher education was extremely difficult for poor children, so the really gifted among them saw in the old normal school a golden gate to opportunity. It was like saying that for nearly a century, the normal school had served as the "University of the Poor." The result of this situation is well known though not sufficiently understood by many. Our school systems enjoyed the great advantage of first class teaching personnel, especially at the primary school level. And this helped account for the tremendous cultural progress of this century.

After the Second World War, however, the situation changed radically. The standard of living rose in Western Europe and democratization of education, including higher education, became a reality. The consequence is clear; any gifted working class child who has sufficient motivation has now the possibility of studying at the University level. A teaching career, especially as primary and junior high school teacher, is now considered a second, if not the last choice.

To me, the only solution is to train all future teachers as highly qualified professionals, at the same university level as medical doctors, engineers, etc.

The idea is slowly being accepted in most European countries. However, the critical decision is hard to make for the following reasons:

- better qualified teacher will have a right to higher salaries;
- some older teacher training institutions are fighting for their survival;
- some fear that the universities might emphasize too strongly the cognitive, theoretical side of education and neglect the affective and craftmanship aspects.

My hypothesis is that the quality of recruitment will become poorer and poorer if the social status is not raised again through full university training.

Anxiety

First, teachers are anxious because they have to educate a still increasing proportion of the age group which as a result is less and less select for a rapidly changing world and culture. In other words, they have to educate better, an increasingly heterogenous population. This is a difficult task.

Second, teachers are anxious because they are made aware of many new educational theories, strategies, and technologies, which they do not really understand or know how to use. Frequent visits to schools makes one realize how vulnerable most of our teachers are.

Innovations

The innovations that are now finding their way into programs of preservice and inservice education in Western Europe relate to these anxities. They help teachers learn new ways of dealing with a broader range of individual differences among students, and improve teaching skill through training in new methods, strategies and technology.

New Developments in Teacher Education: Czechoslovakia

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New objectives for the Czechoslovak educational system establish the principle of consistent dialectical unity of man's education and professional training in terms of both content and form, making sure that all of the links of distinction between elementary and secondary education has been eliminated conceptually by making the latter available to all pupils so that gradually all can end up their compulsory school attendance with school-leaving examination certificates. Adult education and training is now firmly integrated in the school system.

The aim of our education and training is to have people fully and harmoniously developed, whose talent, interests and capacities are stimulated by means of the most up-to-date educational methods. Talents for various activities are evenly represented in the population, in all classes and regions of the state. They are not, however, often adequately stimulated owing to the educational defects in families, schools, and the whole society. Thus the biosocial development of interest, capabilities and talents in view of a maximum all-round development of each individual is being slowed down.

The educational system is based on a unified system of educational institutions with an explicit working and polytechnical character. School attendance is compulsory for all children and youth between the ages of six-to-sixteen years.

All schools and institutions of the educational system are public schools. All schools utilize uniform syllabi, curriculum and text-books.

S4

Teacher Education

In accordance with the development of our system of education and training it is planned that all teachers and educational workers will be given complete university education.

The scientific ideological maturity of a teacher or educational worker lies in his acquisition of and full identification with science and philosophy, and in his ability to use them in solving whatever situations he may meet in the educational process and in public life. This professional maturity stems from the teacher's positive attitude towards socialism and is manifested in all the aspects of pupil education as well as in winning the pupils for personal participation in social activities which consolidate the system and people's attitude to work and to socialist ownership.

The moral qualities of a teacher or educational worker underpin the teacher's educational influence and personal example and keep being intensified through his active part in the life of the society as well as through his other personal life experiences.

A teacher is also a public servant, a disseminator of the latest education methods and approaches in out-of-school education, particularly in the family. He takes an active educational part in the work of children's and young people's organizations.

Teachers should also be able to help implement the requirements of socialist health care and healthy living environment and to contribute to creating the conditions for a socialist way of life as a general social attitude.

Teachers and instructors of all categories are compelled to raise their qualifications by attending various forms of further education courses. The necessary conditions have been created for the continued improvement and expansion of life-long teachers qualification in a new, three-stage system: the stage of adaption in the first years of teaching; the stage of innovation, or re-professionalization in post-graduate studies; and the stage of specialization for specialized positions in the sphere of education.

New Developments in Teacher Education: Egypt

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Introduction

Egypt has witnessed, during the last two decades enormous social and economic changes. This fact has placed continuing pressure on education to keep pace and has required the teacher to perform new duties and assume new funcitons. As the role of the teacher changes so is his preparation and in-service training.

The increase in population has caused an inevitable rise in the number of children within the school-age limits. Primary education, from ages 6 to 12, is compulsory in Egypt although only 83% are at present enrolled. The plan of expansion of education includes raising universal education to the age of 15. Increasing popular demand for education is an evident phenomena. There is ever-growing pressure on school buildings and facilities leading to over-crowded classrooms and double shifts. Prospective teachers must be trained to cope with large groups and still give needed individual attention, diverse activities and proper evaluation of each student's growth and development. This situation requires an increase in the number of preservice teachers and in the institutes and faculties that educate them.

Economic and social development in Egypt has been planned with specific aims to raise the standard of living, provide a decent life for every citizen and bridge the gap between classes. Because of the drift from the villages to big towns and cities, schools and teachers must now cater to pupils from an increasingly wide range of social and economic backgrounds, potentialities and capabilities. Moreover, teachers must help bridge the gap for the parents as well, helping them to under-

stand their children and the problems of modern life. The teachers' capabilities must expand to include parent-education ranging from informal meetings and talks, to formal teaching of adults in occupational and literary classes. Teacher education must be modified to meet these changes. All efforts in education are now directed towards creating a productive society. The whole educational system aims at preparing the young to contribute effectively in re-shaping the society.

"Basic Education" aims at providing the young citizen with the minimum, basic knowledge, skills and patterns of behavior necessary for productive citizenship.

The teacher's new role is not confined to the school but extends to the community where he is expected to be a guide and leader. He is also expected to be a guidance counselor, helping his pupils to adjust to new social conditions through careful planning for activities inside and outside the classroom.

These new tasks of the teacher require reviewing and updating the contents of courses presented, besides the introduction of new courses, such as new mathematics, environmental education and contemporary problems. However, the teacher of today will be continually faced with the necessity of adjusting to new methods, new syllabuses, suitable aids and materials for learning and expanding facilities. He must be trained to be capable of self-development as he faces the increased rate at which new knowledge is produced and circulated.

Although many innovations are being introduced into the preparation of teachers several stand out.

Innovations in Teacher Education

In a society that has given women equal rights and equal opportunities for work, there is an increasing demand to provide nurseries and kindergartens in all sectors and districts in order to secure a better future for children. The practical step was to set up special teacher-training courses for those interested in teaching young children within the general plan for primary school teacher-education. The same course of study is followed with special emphasis on subjects related to child welfare, such as Maternity and Infant care, Children's Literature, and Child's Library, and Puppets.

New Curricula

A study of the primary school teacher-training institute programs showed that students were burdened, especially in the

last year of training, with too many courses leaving them no chance for outside reading, self-instruction, and research work. As a solution, a revision of the curricula and schedules of teaching training institutes become necessary.

Innovations were also introduced. Efforts were made to orient student-teachers to be social leaders in their communities, through enriching their studies of pedagogy, social psychology and environmental education. A field-study camp, during vacation, has become an indispensable part of teacher preparation.

Delayed Specialization

At present, the student joins the teacher training institute at the age of 15 and receives his diploma at the age of 20. This system determines his future at an early age. Experience has shown that too early specialization gives neither a good educational foundation nor skills that can be utilized in the teaching profession. The student-teacher finds himself within a closed type of education at an early age and may discover, too late, its unsuitability to his real interests. This can present a real dilemma for the young person who realizes that he has taken the wrong way.

As a remedy, there is a trend towards the return to the previous system of teacher-education, namely the two years junior college course following graduation from high school. This is a more reasonable age for vocational choice and guarantees that the student-teacher has a reasonable basic education, a pre-requisite for a sound program of teacher-training.

Educational Technology

Because of the shortage of qualified teachers an ambitious development is the application of educational technology. Although social demands on education, the expansion in educational services and the present limitations in teacher preparation impede making full use of this technology, its development is being introduced through the training programs.

Inservice Training

Inservice training originated as a result of the acute shortage of teachers as education at the various school levels became legally compulsory. At the same time, the population explosion was beginning to contribute to the problem of school accomodations. Although the Ministry of Education has worked constantly to raise standards for all teachers it is still

necessary to employ great numbers of untrained teachers. In-service training has been found to be the answer to this problem.

Comprehensive plans have also been adopted to supplement on-the-job training with evening courses, vacation courses and careful supervision.

The general In-service Training Center at the Ministry of Education has been established to remedy the deficiencies of untrained teachers. The center, and the sub-centers established in the educational directorates, include in their programs refresher courses, courses on new methods of teaching, audio-visual aids, school administration, and guidance.

A consultative committee made up of University and Ministry personnel has been formed to achieve co-ordination between pre-service education and in-service training.

Teaching Improvement Centers in Science and Language

An interesting development is the establishment of the Science Teaching Improvement Center at Ain Shams University. One of its aims is to stimulate the exchange of ideas and information among leaders of science education, and to prepare appropriate teaching strategies. A one-year training course has been organized for science teachers to get them acquainted with modern methods of teaching science.

The same is done with the English language. A center for the Improvement of English Language Teaching has been established at Ain Shams University. The objective of the Center is to improve English language teaching in Egypt, in general and training of English language teachers in the Faculty of Education, in particular. Post graduate studies leading to a Professional Diploma, and M.A. are available. With these graduate programs, the Center will be a continuing source of specialized man-power in Egypt.

In-service training is now viewed as a continuous process linked with the concept of life-long education.

New Developments in Teacher Education: Ghana

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Needed Educational Changes

One would have expected after independence that the curriculum of our schools would change to meet new needs. But surprisingly, there have been only a few changes in the colonial curriculum which was not sufficiently adapted to meet our needs in the economic, social and cultural fields. Of course, in part, this was due to the feeling that departure from the content and methods of Western Education would mean inferior education for the African. Most secondary schools in Ghana still teach Latin and neglect the teaching of French. Also a great deal of children's literature still has foreign background and does not make sense to the children. Some teachers even find it difficult to interprete the contents of these books. In short, the curriculum does not reflect the needs, interest and aptitudes of the child. Our education has continued for some time to be both misdirected and unsound and our policy has indirectly turned out an endless stream of semi-literates whose education is judged solely from their ability to pass examinations.

Until quite recently, primary education in Ghana has been viewed as a preparation for secondary school. But unfortunately only a tiny proportion of our primary school population really ever enters secondary school. In 1968-69 for example there were 382,000 potential secondary school entrants in our public elementary schools. Of these, only 12,000 or 3% entered public secondary schools. It is, in fact, an anomaly to gear our primary education solely to the interest of this tiny percentage of school population.

Making allowances for entry into Teacher Training Colleges, Commercial Schools, and Junior Secondary-Technical Schools, it

is evident that elementary education is terminal for about 90% of our elementary school population. If education is to be meaningful and relevant to the needs of this vast majority of our elementary pupils who cannot enter second cycle institutions, that education has to be a preparation for life and work.

Innovations to Meet These Needs

Admittedly, what is most required in Ghana at the present moment is not academic qualifications, but a correct appreciation of how to improve the basic necessities of life, namely - crops, livestock, hygiene, housing, irrigation, marketing and management.

The political, economic, social and cultural problems confronting Ghana require for their solution a general evaluation of the cultural and technical level and in particular the training of large numbers of intermediate and top-level personnel in all fields--light industry, agriculture, education, business, banking etc. Already, scientific and technical institutions have been established in Ghana and the curricula of the Universities of Science & Technology and Legon are providing for the necessary scientific and technological education for meeting requirements in manpower and development.

Thus being convinced that Ghana's present educational system is still far from really recognizing the existence of traditional values that can be developed as an ideological basis of national education, the Government's New Structure for Education (1974) is not only directed towards the creation of a society equipped with the technology to enable it to improve its condition of living but is also aimed at providing a "society of responsible citizens, true to their own heritage, provided with capable and moral leadership for a fully free and useful life within the world wide family of nations". This new philosophy will help us create a society based on respect for the dignity of man, equal opportunity for all and equitable distribution of our resources.

To facilitate change in our educational system, we have identified quite recently our objective in clear, precise and measurable terms. The objective of the first cycle education should be:

(a) numeracy
(b) functional literacy and
(c) socialization which implies the development of certain skills and attitudes which will enable

the individual to function in the society.

The change in structure envisages a 6-year primary school period, followed by a 3-year Junior Secondary School Training, 2-year Lower Senior Secondary School and a 2-year Upper Senior Secondary School programme. This means that the present middle school system will phase out and the function of the first three years of the present secondary school system will be transferred to the Junior Secondary School buildings.

The content of the New Educational System aims at a type of curriculum that will make education both terminal and continuing in the same sense that it will enable him to earn a living in that environment. This education should at some time, lay the foundation for those who are academically, technically and vocationally more capable to be able to continue to higher institutions.

Teacher Education

The starting points for relating the educative process to the changing social conditions would definitely lie in the training of teachers. At the present secondary school level, there has been an undue dependence on Peace Corps teachers and other expatriate teachers and the provision of Teacher Training facilities in Ghana is seen as the best solution to the problem. In this regard, mention may be made of the role that is being played by the University of Cape Coast which produces graduate teachers to meet the needs of our secondary schools. Also about 23 3-year Post-Secondary institutions have been established and these have been divided into three groups that will specialize in three different areas--Group 1 Colleges handle Science, Mathematics, Agric/Home Science; Group 2 Colleges handle Social Studies, English, Ghanaian Language and Group 3 Colleges handle Home Science, Vocational subjects, Art and Music. Each of the different types of Colleges offers Education and some few other Core Subjects.

In view of the envisaged change in both content and structure, it has become necessary to train quasi-specialist teachers in different areas of expertise who would be competent enough to team up to provide courses and to handle the 3-year Junior Secondary School pupils up to the level of prescribed standards.

Admittedly, the Ghana Teacher has for a long time been operating under sets of rules. A correspondent described the situation in this way: "the Ghanian Teacher has been conditioned to believe that there is always a superior teacher in the

Ministry of Education who knows how to handle his class better than he does and if he does not obey his order, then his professional future is at stake".

Problems of Implementation

The training of teachers for the Junior Secondary School classes which will start in 1980/81 poses a major problem to teacher education. The program of the Training College will have to be revised considerably to cope with the new structure and content.

Also one of the major problems of this new program is the initial staffing of the Junior Secondary Schools. The main problem is to decide whether or not the current pupil/teacher ratio should be the deciding factor in planning for the supply of teachers at the initial stages. Using the current ratio will mean a serious shortage of teachers.

To determine the level and the pace at which the program is likely to be successful, it is necessary to have an estimate of the present knowledge of the pupils and their ability to learn. This information can most quickly be obtained by the use of tests of attainment and mental ability. We also need evaluation to assess the work of individual teachers and to provide information for educational planning and policy making. Unfortunately, most school teachers themselves have not been trained in evaluation procedures and research techniques. They need skills and understanding to help teachers in carrying on such evaluation. At present, comparatively little time is devoted in Teacher Training to serious consideration of the problem of assessment, let alone to the teaching of basic statistical techniques. The aim of course, is to help the teacher to be more effective. This lack of concern for educational measurement means that the majority of teachers cannot realistically assess their own effectiveness and are handicapped when they become interested in research. The revision of courses in education in this respect seems long overdue.

Surprisingly, most of the evaluation has been done by persons who hope that others will put the results into practice. The role of the teacher in the planning and conducting of curriculum experimentation in the school has been underestimated. Education is unlikely to make the progress it should unless the school problems are studied by people within the school.

New Developments in Teacher Education: Indonesia

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Introduction

The main task of the new government since 1966, has been to arrest the process of economic, social and political deterioration and to create a sound basis for national growth. At the close of 1968, an important Presidential Decision was signed. It marked the onset of the first Five-Year Development Plan, 1969 to 1974. From the beginning, it was stressed that the economic priorities of the Development Plan were important to the planning of education. Prior to this period, the educational system had not been functionally coordinated with the requirements of economic development. The new education concept in the plan referred to education in the widest sense: cultivating the values of the Indonesian philosophy of life,including religious education, making Indonesia a law-abiding nation, improving knowledge, and providing technical and vocational skills.

The Crisis of Education

During the early part of the Plan, there was a serious problem of educational imbalance. This imbalance existed between the school age population and facilities available and between type and form of education. For example, the ratio of junior high level students enrolled in general vs. vocational schools was 2:1. At the university level, the ratio of students entering social science vs. exact science faculties was 2:1. Another serious imbala ce was the difference between primary, secondary, and higher level education. In 1967, 13 million youngsters

were in primary schools; 1 million in junior secondary schools; 1/2 million in senior secondary schools; and less than 1/4 million in various public and private universities and academies.

Besides the large number of illiterates caused by the rapid population growth and by the absence of follow-up measures for those who have completed literacy education, there was also a large number of student dropouts. In 1964, there were 3,213,000 students in the first grade, and only 978,000 left in the sixth grade. In the same year, the dropout rate was 49% for the freshman year. This represents a great loss to investment in education, and an impediment to development efforts.

Besides constraining the educational opportunities, the low quality of educational practices is blamed for high dropout rates, and the low quality of education was attributed to irrelevant curriculum and a serious shortage of qualified teachers. In 1967 24% of primary school teachers were under "not qualified" category, and 54% were "partly qualified".

New Developments

Upgrading Quality of Teaching

The Plan's emphasis for initial improvements of teacher education was placed on quality rather than quantity. In case of emergency, the shortage of primary school teachers was to be overcome by utilizing surplus civil servants and armed forces personnel, after being given special training. The shortage of teachers in science, vocational, and technical areas of study was to be overcome by issuing statutory provisions on compulsory teaching.

However, increasing the competency of the existing teaching force, constituted the main concern. Teachers have been exposed to intensive guidance, upgrading, workshops, refresher courses, and other relevant programs. Efforts have concentrated on improving the standard of two main institutions: (1) the institute for teaching and educational sciences, and a degree granting establishment called IKIP and (2) the teachers training school, a three-year, upper-secondary level institution offering teaching certificate in primary school, called SPG.

Emergency Teacher Training Programs

Assuming the steady output of 26,000 teachers a year, still another 35,000 teachers would be needed. In addition to increasing the intake capacity of existing institutions, teacher

shortage was to be met by various other measures, such as introducing a two-shift system and encouraging certificate holders not currently in the teaching field to join the force. At the secondary level an emergency course still in operation during the introduction of the Plan would be continued with its annual output of 2,300 teachers as long as it was needed. Gradually, this last type of crash program will be eliminated in order to achieve greater efficiency of the system.

Upgrading Teacher Education

There now is a growing awareness--accompanied by a certain feeling of uneasiness--that the quantity aspect of education is becoming a serious problem. Teacher-training institutions simply are unable to fully cope with the rapidly growing demand for more and better teachers. The serious lack seems to concentrate on the needs of the secondary level, particularly for vocational education. One of many factors responsible for this situation is the system's own general resistance to change, due to its egotistic desire to remain enclosed within its familiar world and its a priori scepticism against anything new. Whatever the reasons for this situation, vocational education is perhaps one of the first areas to be given special attention for reform.

In the course of the second Plan, it became evident that the teachers supply system lagged far behind the real demand. At the same time, teacher-training institutions were attacked for being "oblivious" to the need of qualified teachers at the grassroot level. An emergency training scheme had to be reinstitutionalized, rather than phased out, as previously planned.

The greatest impetus in bringing about the necessary transformation in the teacher education system has been the realization of the mammoth task to be performed in anticipation of the third Five-Year Plan, 1980/1981-1984/1985. The projection of 122,200 additional secondary teachers needed during the time span of the third Plan is optimistic. Terminating all kinds of crash programmes while simultaneously increasing the quantity and quality of existing institutions, is no easy task; it is our challenge.

The World Bank supported-teacher education project was assigned the specific tasks of retraining teacher educators in order to strengthen the professional capabilities of the faculties of education while at the same time developing detailed programs in selected fields of study.

Teacher Incentives

To attract more people to enter the teaching force, the government has introduced a new incentive scheme and appointment guarantee. Special renumeration will be given to those actively engaged in teaching, as long as they remain in the field. At present--perhaps mainly because of these measures--the rush to teaching institutions seems to be increasing significantly.

Meanwhile a number of activities have been initiated to improve the overall national condition so that objectives can be successfully achieved. These include the introduction of parent-teacher-community managed education, modular instruction, delivery and communication technology and the open learning system. In addition, special attention is being given to educationally deprived groups, such as the culturally isolated, socioeconomically underprivileged, physically handicapped, and mentally retarded.

New Developments in Teacher Education: Kenya

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Introduction

Upon gaining her independence from Britain in 1963, Kenya made the decision to expand her education system. Because of this commitment, Kenya has been spending up to 30% of her annual budget on education with impressive results. Primary school enrollments have increased 200%, numbers of primary schools are up 70%, and secondary school enrollments have increased by 300%.

Even with this impressive record the education system still needs drastic changes and overhaul. Recently a government appointed committee charged with redefining Kenya's educational objectives has called for teachers for primary schools.

Improving the Quality of Teachers

The initial period of primary teacher education has remained two years, but the level of recruitment into teachers colleges has been raised.

Because annual output from the present teacher training colleges is inadequate to meet the requirements of an expanding primary schools system, there are some 30,000 un-

trained teachers who constitute 30% of the teaching force. This presents a major challenge to the high quality primary education desired by Kenyans in general and by the education authorities in particular.

In an attempt to solve this critical problem, a formal structure to upgrade primary school teachers by exposing them to new trends in curriculum construction and revision was recommended. Under this program, an in-service course would enable unqualified teachers to obtain qualified status. Correspondence materials prepared by the Institute of Adult Studies at the University of Nairobi would be used, as well as radio programs prepared by the Education Media Service of the Kenya Institute of Education.

Teachers for Secondary School

There are two types of teachers at the secondary school level: graduate and non-graduate teachers. Graduate teachers are prepared by the faculty of Education at the University of Nairobi and at Kenyatta University College through three-year Bachelor of Education programs. These teachers have been found weak in the content of the subjects they are expected to teach, particularly at the level of the East African Advanced Certificate of Education. Remedial measures are now being taken to strengthen the Bachelor of Education program and to increase enrollments of graduate teachers of mathematics, languages and sciences.

Non-graduate teachers are trained at Egerton Agricultural College, the Kenya Science Teachers College and the Kenya Technical Teachers College. Following the 1967 decision of the government to diversify secondary education curriculum by introducing agriculture and other practical subjects, it became necessary to train teachers of agricultural science at Egerton Agricultural College,some 110 miles west of Nairobi. This institution was ideal because it was already training skilled personnel for the Ministry of Agriculture. The three-year agricultural teacher education program established in 1969 is still in progress at Egerton and produces fifty teachers annually. Because the need for this type of teacher is increasing, the Ministry of Education plans to establish its own Kenya Agricultural Teachers College.

One of the findings of a government education commission was that science and mathematics programs in both primary and secondary schools were weak. The concern was that too much attention had been given to teaching the arts and humanities,

particularly in secondary schools, at the expense of science subjects, which require expensive laboratories and teaching materials and equipment. In an effort to improve this situation, the government established the Kenya Science Teachers College, and obtained external aid from Sweden towards its construction, equipment and management. Since 1970, the college prepares 150 science and mathematics non-graduate teachers annually through its three-year secondary teacher education program. There are plans to expand the college to produce 200 teachers every year. The government obtained Canadian aid to establish the Kenya Technical Teachers College, whose construction was completed early this year and whose annual output is estimated to be 200 teachers of technical and industrial education.

Preparation of Teacher Educators

When the primary teachers colleges were consolidated and their enrollments increased it became necessary to improve the academic level of the teaching staff and to strengthen management abilities in these colleges. Consequently, a Master of Education degree program was established at the University of Nairobi in 1974 to prepare senior teaching staff and Heads of Departments in these colleges.

This two year program continues to attract experienced secondary school graduate teachers who wish to teach in primary teacher education institutions.

Part of the Swedish and Canadian aid for the establishment of the Kenya Science Teachers College and Kenya Technical Teachers College was to enable Kenya to train her own manpower for service in these two institutions for preparing secondary school teachers. There are some sixty Kenyans now studying in various universities in Canada, and after completing their Bachelor of Education degree programs they will return to Kenya and be expected to initially assume teaching positions at these institutions. Kenyan teaching staff of the Kenya and Mombassa polytechnics are being prepared in various universities in the United Kingdom. This trend will continue until Kenya is able to provide this kind of training itself.

Education for Handicapped Children

Two programs for retraining teachers of mentally retarded deaf and dumb children are at two of the primary teachers colleges. Because the government's direct involvement in

education for handicapped children is increasing, it is proposed to establish a Kenya Institute of Special Education where among other activities, teacher training would take place.

Upgrading Administrators

In recognition of the fact that school services have become increasingly complex, the Ministry of Education is considering the establishment of a Kenya Education Staff Institute to offer continous management training programs for educational administrators and supervisors.

Curriculum Development

Extensive curriculum development activities are being undertaken by the Kenya Institute of Education, whose main function is to ensure the preparation of relevant curriculum materials for use in Primary and Secondary Schools and in Primary and Secondary Teachers Colleges. Books, science kits and other instructional materials are published and distributed to schools. These improvements in the quality of primary teaching materials are especially aided through funds obtained from the World Bank.

New Developments in Teacher Education: Korea

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The major problem of teacher education in Korea until 1970 was fulfilling the demand for teachers. After 1970 this orientation was directed towards the necessity of upgrading the quality of the teachers and adjusting to new problems. New developments involve the following major issues:

- Adjusting the number of teacher education institutions
- Strengthening government administration of teacher education
- Adopting a pilot college program
- Upgrading junior teacher colleges
- Strengthening in-service education

Adjusting the Number of Teacher Education Institutions

In the 1960's the number of junior teachers colleges for elementary school teacher training was increased at a faster rate than the demand for new teachers. By 1975 the growing oversupply of graduates without teaching jobs had at last caused a decrease in enrollment. Thousands of graduates of those junior colleges who could not be appointed to teaching positions for years has been a serious problem, not only for the graduates themselves but also for the government.

As a result of this imbalance, five junior teachers colleges were changed to vocational junior colleges in 1978. The short-term temporary teacher training centers for elementary school teachers and secondary school teachers, which had been established in the 1960's, were abolished in the mid-1970's.

On the other hand, many four-year teachers colleges and their enrollments have been drastically increased in the 1970's. This was in anticipation of the rising enrollment in secondary schools where compulsory education is in the process of being extended upwards from elementary school to the middle school (grades 7-9) by the early 1980's. However, these drastic increases have caused a huge oversupply of qualified secondary school teachers from private teachers colleges and the departments of non-teachers colleges, who could not be appointed to teaching positions. The main problem now being faced is to bring about a power-balance between the supply and demand of teachers and to concentrate on efforts to improve the quality of teaching.

Strengthening the Government Administration for Teacher Education

Several changes in the Ministry of Education were made in 1978. The Teacher Education Division was upgraded and expanded to the Bureau of Teacher Education and Certification, consisting of the divisions of Teacher Education and Certification, Pre-Service Teacher Education, as well as In-Service Teacher Training.

Adopting a Pilot College System

In the 1970's significant momentum to improve all higher education, including teacher education, stemmed from a more active role on the part of the government.

One role the Ministry of Education played was to encourage and support colleges which developed innovative programs. These colleges were selected as "pilot colleges" to pioneer innovative programs in higher education.

The major features of the pilot programs included such innovations as, the reduction of credit requirements, the addition of minor fields to broaden academic backgrounds and the adoption of accelerated graduation to replace the inefficiences of the 8 semester requirement.

Upgrading the Junior Teachers Colleges

Upgrading the junior teachers colleges to four-year colleges would especially help solve the problem of oversupply of teachers and the adjustment of the graduates of the junior teachers colleges. It would also help to improve the basic quality of elementary school teacher training. The educational authori-

ties now plan to upgrade them in the near future,

Strengthening In-Service Education

At present, there are two main types of in-service education for teachers and school administrators: general training and qualifying training.

General training is offered as a six day course at the National Institute of Education and at the research institutes attached to the boards of education.

Qualifying training is offered for 240 hours, mainly during vacation periods, for school principals wishing to obtain higher class certificates. This program is offered by the Educational Administrator In-Service Training Institute which is attached to the College of Education, Seoul University. There are also teacher in-service training institutes attached to junior and senior teacher colleges for elementary and secondary school teachers as well as vice-principals. In-service education for general or qualifying training is also offered at 12 graduate schools of education at night and during vacation periods.

New Developments in Teacher Education: Nigeria

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Historical Roots

Nigeria's first contact with western formal education was through the Portuguese Christian Catholic priests about the middle of the 17th Centruy. Due to hostility among the chiefs and people of these coastal areas, efforts at Christianising the people and of expanding and consolidating these early schools, failed. Thus, when different Christian missionary activities appeared again two centuries later along the coastal lands, there were no traces of these earlier 17th Century efforts.

By 1855 the first grammer school was opened in Nigeria by the Church Missionary Society. By the end of the century, more primary and secondary schools as well as teacher training colleges had been opened.

Nigerians in the south soon began to take advantage of the great prospects that formal education conferred on the small minority that had such education, however smattering it was. Before the end of the 19th Century, not only were rich families sending their children to Europe, especially Britain, for higher education in the fields of medicine, law and allied professions, there were also the beginnings of the rumblings and demand for university education for Nigerians in Nigeria. The first institutions to be established were the Yaba Higher College, Lagos in 1931, and the University College, Ibadan in 1948 respectively. In the early 1960's expansion of institutions of higher and intermediate education took place at a rapid rate in response to the high-level manpower needs for the country's industrial, managerial and executive demands. Eighteen years after independence, individual demands for higher education seem to have significantly outstripped conscious efforts at providing the nec-

essary facilities for such education. Furthermore, periodic estimates of middle-level manpower requirements to meet national and local development plans are yet to redress the acute shortage of executive capacity to prosecute the various development plans. In addition, the introduction of seven new universities in 1975 to the existing six universities as well as the opening of state and federal colleges of arts and science, colleges of technology, colleges of education, schools of basic studies, and polytechnics have not appreciably altered the demand and supply situation in which demand continues to outstrip supply almost in geometrical progressions.

Broadening Higher Education

Increasingly there have arisen demands by Nigerians for a more meaningful and functional education at all levels. Nigerians have felt disenchanted at the alarming rate in what has been generally described as a national drop in standards of education at all levels. They have also voiced disappointment at the aloofness of schools and higher educational institutions in producing the type of Nigerians capable of fulfilling the national, developmental aspirations at the rate and tempo desired as well as within the efficient and effective performance levels envisaged.

The birth in 1960 of the University of Nigeria, Nsukka in the then Eastern Region of Nigeria signalled a significant break with the colonial elitist, ivory tower tradition in university education in Nigeria in which town and gown hardly ever met together. Not only did the University open its doors to many more students than hitherto, it offered such students more diversified courses, particularly in the professional subjects, to meet the development and manpower needs of the nation. For the first time in the history of higher education in Nigeria, degree courses in such fields as teacher education, music, fine art, accountancy, were being offered in universities.

In the early 1960's a deliberate effort was made to reverse the imbalance between science and technological education in the universities and education in the humanities. To produce the science teachers as well as the scientists and the technologists required for development in the different sectors of the economy, a ratio of 60% admission in the sciences and science related subjects was decided upon as a national policy against 40% admission in the humanities. Within ten years, it became obvious that the nation was far away from achieving

this national objective. It was an evil cycle that had to be broken. Because of insufficient qualified teachers and facilities to teach science courses in the public schools, the schools themselves were unable to produce enough qualified candidates for admission to the universities and the teachers' colleges for science education. It was obvious, therefore, that the universities themselves produced far too few candidates for teaching, let alone for agriculture and the manufacturing as well as the emerging construction industries. It was commonplace up to the early 1970's that a number of university science departments produced as few as between one and five students per year.

A significant step taken in the last few three years by Government is:

- the creation of many more colleges of education for the training of well-qualified, non-graduate teachers for the public schools;
- the founding of new schools of basic studies in each State for preparing qualified and no-so-qualified candidates for direct entry into the three-year degree programs;
- the expansion of polytechnics for technical training for middle level science and technology for the purpose of increasing opportunities for university education.

Each state has a combination of at least four of such colleges that has been identified above.

While the nation continues to wait for the terminal products of these new institutions, these bold efforts at manpower have created new problems. The best secondary school teachers are now being lured away to take appointments that promise better prospects in the new colleges. Similarly, an appreciable percentage of university teachers transfer their services from the older universities to newer ones or to the new colleges where promotion prospects are easier and better. It is not that the trend is bad in itself. What worries most observers is the proverbial "robbing Peter to pay Paul" situation that these attempts have created particularly where the traditional sources of supply of university teachers have not increased at the same rates as the demands for them. Another distrubing outcome of these attempts is what many academics have described as a general fall in academic standards and the resulting "cheapening" of higher education.

Improving Teacher Education

The new National Policy on Education envisages a combination

of strategies for the production of the required manpower needs, for example, through the introduction of a) "schools" or"universities" of the air by radio and television, b) correspondence courses, and c) extra mural adult evening classes. The Ahmadu Bello University, Zaria has just started two experiments in these directions. One is its "school of the air" approach teaching Hausa by radio. Although this is not a degree-oriented attempt, should the experiment succeed, it may have implications for any eventual transfer of the knowledge to university education by radio or television. The second attempt in Zaria is towards teacher training by correspondence followed by long vacation in-service courses and on-the-job supervision of "students" on the course.

The University of Lagos also has a degree program for the training of teachers by radio and television. Started only two years ago, its activities are limited to restricted areas of Nigeria. It is too early to assess its success or potentialities. However, the greatest constraint, apart from finances and appropriate staffing, will be the inadequate technological infrastructure to make the scheme work. Electric power and communication systems apart from being inadequate are hardly reliable. Until there is appreciable improvement in these areas, the "open university" concept in higher education will continue to be an unattainable dream in Nigeria.

With 70% of Nigeria's primary school teachers largely untrained and unqualified; with the remaining 30% so-called trained and qualified teachers nearly illiterate in the new subjects introduced into the primary school curriculum - elementary mathematics, science and social studies-and; with the increasing budgetary cuts in education, it is becoming more and more obvious that traditional and conventional systems of primary school teacher training in Nigeria are no longer adequate to meet national demands for quality education. Plans are now being made to introduce on-the-job training for unqualified teachers using packaged instructional materials.

Conclusion

In spite of everything else, there are prospects that, given the necessary incentives, universities can achieve more than they are doing now.

In a number of universities, curriculum offerings are being made more flexible and there are many more optional courses to choose from. A number of these universities have introduced the course unit and the semester system which,

compared with the traditional university experiences in Nigeria, are less painful, less wasteful in time, and perhaps money. Yet in some other significant ways, the universities are stepping up their post-graduate degree programs, in spite of all odds, to be able to train their own local staff and provide the necessary man-power requirements for other users. However, for the universities to play a more significant role in national development and in the fulfilling of their traditional roles as custodians of knowledge, they need improved financial support and revamped programs reflecting the changing nature of today's societies.

New Developments in Teacher Education: Thailand

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Background

For more than sixty years in teacher education, teachers have been trained and produced for different purposes, at different times, and with different approaches. At a certain period of time, teachers were perceived as the most respectable persons in the society, second only to the child's parents. At other times teachers were regarded as the persons of service, and a teaching career was looked down upon as the lowest, socio-economically ranked job. Eighty-five percent of college students recently checked teacher education as their last choice of study in universities. A large number of students came to colleges of education just to get into universities, not because they intended to become teachers.

The idea that more education will provide a means for better pay and higher jobs is misleading, yet it still prevails among students of teacher education. Today more students graduate from teachers colleges than are needed for teaching positions in the school. Paradoxically the shortage of teachers in remote rural areas is getting more and more serious.

Reforms in Teacher Education

Teacher education is viewed as a vital mechanism for change in the total education system. The quality of teaching is continuously being upgraded while the quantity of teachers is to be limited with proper planning. Educational reform has resulted in new policies for teacher training, teacher rules, and organization of teacher education curriculum.

Teacher education programs at every level are emphasizing greater relevancy to social and economic environments especially of the rural areas, and the best utilization of limited resources available for an exploding population. Lack of teachers in remote rural areas is being solved by reorganizing and coordinating teacher training institutions all over the country.

For the first time in the history of teacher education in Thailand, teachers are to be licensed to teach. Hopefully this will help attract well qualified people into the profession.

The Committee for Establishing the Framework for Education Reform has emphasized two major roles of teachers in professional performance: roles towards students and roles as change agents towards society.

Many challenging innovative ideas and practices have been introduced into teacher education such as preparation for rural teaching, extension programs and adult education. Mass media is getting more attention in teacher education programs than ever before.

The many changes taking place are part of new development in the wider planes of social, economic, and political transformations in Thailand.

Section Four:

DEVELOPMENT OF EDUCATION IN RURAL AREAS

Section Four deals with attempts to bring quality education to rural areas. MURRAY describes Jamaica's ambitious programs to restore the rural primary school in the countryside as a vital part of the community in which it exists. PARAVACINI presents the case for the integration of rural education into other fields of activity in Bolivia. The MASONERS, using examples from ACPO, the well-known nonformal education program in rural Columbia suggest that innovative, forward-looking institutions of teacher education might well consider how their resources could be made available to teacher training for nonformal education programs.

Education and Rural Development in Jamaica

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Jamaica is one of a string of small islands to be found arching its way around the cobalt blue sea of the Caribbean. These islands were once called the pearls of the Caribbean because of their natural beauty, and they were among the spoils of war between European powers in the 17th and 18th centuries. So Spain, Britian, France and Holland all held colonial sway in the Caribbean for periods up to 300 years until the movements for independence eliminated their imperial authority.

Today, the islands are divided into two groups known as the Greater and the Lesser Antilles. Jamaica belongs to the former and is the third largest of the Caribbean Islands. It is 146 miles long and has a maximum width of 57 miles. It is largely mountainous, covering a total area of about 4,000 square miles and has a population of just over two million people with some 800,000 living in Kingston.

Jamaica was under the Spanish flag until 1665 when Admiral Penn and General Venables sallied into the Carribean under the sail of England's Lord Protector Cromwell to discover that Hispaniola was too tough for them, so they turned their attention to Jamaica where the Spaniards were not so well established. The Spanish Governor fought bravely but received no support from Cuba and the end was inevitable.

Thus, Jamaica became British and the education system that developed during 300 years of British rule was largely influenced by British ideas and concepts. Limited as it was, in view of the lack of money and the lack of any real direction or planning that existed until the latter part of the 19th Century, it remained a pale imitation of Britain.

Jamaican Education Prior to Independence

When Jamaica achieved independence in 1962 there had been some linear expansion but the system was basically the same as it had been thirty-four years earlier. The inadequacies of the elementary school system were simply stated; unwieldly and over-crowded conditions, irregular attendance, slow promotion, inadequate staffing and lack of materials. The curriculum had little connection with the realities of life in an agricultural country. For the majority of the Island's children, the elementary school course was the beginning and the end of formal education. For the large number who fell by the wayside it was not even that.

Secondary education was mainly an academic diet of students being trained to pass the Cambridge Local Examinations. Few did. Secondary education was under the auspicious care of the Schools Commission with a Bishop or some other notable as Chairman. The majority of the principals were recruits from Britian with a substantial number of staff holding British degrees and a goodly number of teachers also recruited from abroad. In contrast, the elementary school and its Jamaican principals and staff survived by sheer will-power and determination to overcome against all odds.

There was no university and higher education was attained by rigorous efforts of private study and preparation to take the overseas degrees of London University. Access to higher levels of education was severely limited; there was space for just about 1% of the elementary school enrollment. Thus, the aims, objectives and goals of secondary education and higher education were set by the external examinations.

A number of teachers training colleges turned out a very small number of certified teachers. Since output of teachers from the colleges was inadequate, there was a supplementary production line called the Pupil Teacher System which could engage pupil teachers from the age of 14 years. Beyond the ordinary supervision, these hapless mortals were supposed to receive no less than three hours special instruction per week and to pass three successive Pupil Teachers' Examinations. After this trial, a pupil teacher could gain entrance to a Training College or, on attaining the wise age of 18, be registered as a Second Class Assistant.

An interesting footnote on these particular examinations was that substantial numbers of "volunteer" candidates were allowed annually to take the examination although they had had no training as pupil teachers. A large number of these candidates obviously had no intention of becoming teachers, but used the examination as a recognized standard to gain upward mobility by passing the restrictive and narrow channels

that denied access to secondary education.

Needless to say, the system was subject to abuse and it was reported that the majority of pupil teachers were neither properly taught nor trained.

The pupil teacher system has long since been abandoned. It illustrates, however, an attempt to solve problems which instead of offering a solution, created even greater and more complex problems. The lowering of standards cast shadows on the system for decades.

Developments After Independence

One critical priority was to reduce the gap between the elementary level and the secondary level. It was decided to change the name from "elementary" to "primary" to emphasize that this stage of education implied a beginning - a preparation for a secondary stage. However, a great deal has yet to be done to bring this level of education to the point where the product is ready for the secondary level.

Regrettably, I must confess that despite all the tremendous efforts we have made since 1962 we must admit that many of the problems delineated in 1928 are still with us.

In 1964 a UNESCO team reviewed the Education System and their finding emphasized the limited access to secondary education as well as the problems of the primary level. Unfortunately, at the same time international agencies did not provide funds for a major attack on the primary level so a decision was made to expand the first cycle of secondary education and the existing teacher-training institutions.

Although the expansion was mainly linear and thus perpetuated and even accentuated some of the problems, it did achieve two very important things.

- It brought attention to the fact that if we were going to really reform our educational system, we would have to undertake a complete review and overhaul of our curriculum as well as the structure and organization of the system.
- Any changes made would depend on the preparation of our teachers, and a substantial change in the attitude towards teachers would be a key factor if we were to establish a new status for this profession.

In 1973, the new government decided to again assess the educational system. As a result, the United State Agency for International Development (U.S.A.I.D.), in collaboration with the International Bank for Reconstruction and Development (IBRD), the Canadian International Development Agency (CIDA)

and the Government of Jamaica - undertook a new assessment. Every aspect of the system was carefully evaluated.

Subsequently, a loan agreement was signed with USAID to provide for physical expansion, as well as emphasis on a new thrust in rural education in three major areas.

- curriculum and teacher training in primary education,
- improved agricultural and community education,
- implementation of continuing and life-long education.

In order to implement and manage the new programs, the Ministry of Education began to be reorganized.

Jamaica's Rural Primary Education Project

The rural primary education project is an important part of our new National Five-Year Plan. It is a way of removing the stigma from primary education and placing this part of the system where it rightfully belongs - in the foreground of our concerns. Our aim is to make the primary school in the countryside become once more a vital part of the community in which it exists, a place where the foundations are laid for a learning, caring society.

In six experimental schools, we are involving teachers from the very beginning in the work of developing curricula geared to community needs. Through continuous workshops, this process-oriented approach identifies those teachers who have demonstrated specific attitudes and skills and uses them as resource persons. Ministry officials and overseas technicians function as facilitators.

In the curriculum revision process, we try to identify the kind of approaches best suited to the needs of the community and to learning strategies of the children in that community. Above all, we are exploring ways in which the community can be fully utilized as a resource learning and ways in which the curriculum can contribute to the learning needs of the community. Each school and community will eventually evolve its own model of organization for mobilization of these resources. Hopefully, the developed models can be replicated or modified in other communities with similar socio-economic and leadership characteristics.

Thus, we will have developed strategies for rural community development and, in the process, fostered in teachers and children, an enhanced pride in their own country, a commitment to active and productive citizenship, and a new self-worth and self-awareness.

Utilizing Local Resources

But the localized curriculum is not just a watered-down version of metropolitan schooling. Standards of achievement in the cognitive skills must be retained, but we want to develop in teachers and students the ability to utilize fully rural resources at their disposal, using their own initiative to resolve problems they face.

Our basic assumption is that we have reservoirs of resources, particularly human resources, that are untapped and often unrecognized. In the process of tapping these resources, we must bridge the gap between the young and the old. We must delve into our own history to find out how our forefathers solved problems within their own cultural framework. In so doing, we hope to create in the young a pride for their own local heritage, a consciousness of a proud tradition to be upheld. Therefore, one vital component of the project is research into the immediate community, recording its oral history as part of the teaching-learning experience. We hope thereby to restore the dignity of age to the elders, and perphaps encourage them to start asking questions and seeking answers to the parodoxes of today's world. They will also become part of a learning society.

To achieve this, community, children, teachers and government officials all must learn new roles and new ways of functioning. In his address to the Sixth Commonwealth Education Conference in Kingston in 1974, Jamaica's Prime Minister stated that the goals of primary education would be achieved through..

> ..."Universal education organized in a single stream that is equally available to every single child at an early age which delivers every child into the social and economic stream adequately prepared for the kind of task to which he or she is fitted by aptitude and inclination. Diversity of training must clearly take place within a single organizational frame."

Many of the inescapable constraints such as money and dependence on foreign resources remain. We cannot banish them by denying them, but we believe that clearly defined aims can inspire us, make the vision sharper, and under-pin the determination to be creative and innovative as we search for alternative solutions to fight against the odds.

In 1928, they tended to accept the problems as inescapables to be piously noted rather than resolutely resolved. It was the colonial era. Today we are independent, and we must rely on ourselves. The love of our children is a mighty force to give us strength to overcome and overcome we shall.

Educational Needs for Rural Society in Bolivia

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General Considerations

The rural areas of Latin America contain the majority of the continent's population and in economic and social terms is critically important. This makes imperative the integration of rural development into the development of Latin American countries as a whole. Rural education should therefore be in intimate and direct relation with the other fields of human activity.

If we accept the fact that man should be the "subject" and not the "object" of education, one of the propositions of rural development should be that the peasant be the agent of his own development and of the environment in which he lives. He should also be an active participant in the planning, programming, execution and evaluation in order to fully reap its benefits.

Education in conjunction with general rural development should be the basic instrument for acquiring liberating attitudes, freedom from servitude as well as economic, social and cultural dependency.

The fact of poverty, hunger, ignorance and sickness continue to be the permanent stamp which characterizes the peasant population. These tragedies require us to make intelligent decisions, quickly and forcefully in the field of education.

In order to achieve a greater efficiency in the realization of educational activities for rural development, a first priority is establishing integral regional planning units which permit direct contact between those responsible for development and those for whom it is done.

All educative programs for rural areas should be closely tied to the plans for national development.

Necessary in almost all the countries of the region is the establishment of organisms of operational coordination at the national, regional and local level, which permit a better utilization of the human and material resources.

Bolivia is a country in the process of development. It urgently needs to transform its economy, diversify its industry, utilize its natural resources, and integrate the life of its villages.

Rural education in Bolivia has become during the past few years a special area of concern on the part of the national government.

The Ministry of Education and Culture is now engaged in the search for strategies and methods tc improve the quality of the teaching-learning process for peasant children and youth.

In 1931 systematic education of the peasant child began with the creation of the first nuclear school whose aim was to integrate the peasant into the national life. Nuclear schools are a cluster of lower primary schools surrounding a single upper primary institution. This led to an effective form of organization directed by the patriarchs of the villages who took as their responsibility the work of building, maintaining and improving the schools.

The motto of the traditional nuclear school, "the community for the school and in the school," has now been modified to "the school at the service of the community and in the peasant home." This change was made to stress the school's function in the improvement of peasant home life, the caring for health, the increase in rural handicrafts and the start of healthful recreational activities.

Although rural education is intended to be more functional than urban education, the policy of the country is oriented toward the progressive unification of the Urban and Rural Education Services. In effect, a body of objectives is established in accordance with one single structure and function of the Bolivian Educative System. To reconcile these divergent goals, it is and will be necessary to provide specially trained teachers for rural areas.

Necessities for Rural Bolivian Education

Rural education in my country is in a state of alarming crisis at all levels. According to estimated figures, more than 60% of the total population has access to little or no school benefits. What is worse, around 85% of the peasant population composed of Quechuas, Aymaras and other socio-cultural groups are for the most part without meaningful school services. The diagnosis of rural education is disturbing in this respect.

Confronting this situation, the government has given priority attention to rural education.

The national plan of Economic and Social Development, adopted by the Government lists as one objective the incorporation of the marginal population, especially the peasants, in the modern productive process and national life.

The government of Bolivia now gives the highest priority to rural development as an instrument to solving the problem of marginality, a problem affecting the peasant who represents the largest population group (60%).

The Ministry of Education and Culture is now giving a vigorous push to rural education. Among its priorities are:

- provide village education that has the effect of stabilizing rural populations and halting the migration to cities.
- provide new and expanded schools to develop colonization in eastern Bolivia.
- base the rural educative service on felt needs of the community.
- encourage the education of peasant women.
- train new teachers who possess a broad vision of community improvement.
- establish community education through nonformal systems.

To insist in this move toward rural education the Bolivian government has signed pacts with international agencies such as UNICEF, USAID and the World Bank.

These agencies are helping to establish integrated rural development centers, reform rural teacher training programs, institute nonformal education programs, prepare new curriculum materials and build new schools.

Goals for the Future

Substantial educational changes are required to achieve Bolivia's goal of making rural education an effective mechanism for rural development. New techniques and methodologies for providing inservice education to teachers are required. Teaching materials of all kinds are necessary to improve the teaching-learning process. In addition, teachers need to be trained to work with adults in nonformal education programs.

The overall goal is to achieve a generalization of rural education integrated with a national educational system.

Teachers in Rural Nonformal Education: Implications for Teacher Education

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Teachers in Rural Non-Formal Education

Basic to any consideration of the planning and implementing of non-formal education for rural development is a recognition of a number of characteristics that appear to be common among the developing countries of the world. Among these are the following:

- A large proportion of the population live and work in rural areas
- There is a clear and urgent need for comprehensive rural development.
- The level of basic education -- reading, writing, and numbers -- is low.
- Educational services in rural areas are extremely inadequate and frequently nonexistent.
- The level of economic development is low and there is a high incidence of poverty among rural populations.
- There is a need for improved knowledge and practice in agriculture and animal husbandry in order to increase production and thus to improve economic conditions.
- Health services are meagre and unsatisfactory and the general level of health is considerably lower than that of the urban populations.

It is clear that educational programs in rural areas, both formal and non-formal, must be concerned with creating educational systems that will bring about permanent and effective improvements in the lives of hundreds of millions of people, many of them living under poverty and degradation.

The major element of a delivery system for rural non-formal education programs is a teacher who has been chosen in terms of the specific tasks to be accomplished, who is dedicated to improving the quality of rural life, and who possesses effective teaching tools and strategies.

The teacher in rural non-formal education often operates under a variety of titles. He may be a health service worker, a community worker, an agricultural agent, a social worker, a teacher. However, regardless of the title, the task and responsibility is one of teaching the rural populations those knowledges, skills, practices, and attitudes that will make it possible for people to improve their own lives.

While it is clear that the ultimate goal of teachers in formal systems of education and teachers in non-formal systems is identical, nevertheless there are traditonal difference beteeen the two classes of teachers that must be recognized. In the formal system the teacher usually has completed a prescribed course of study in a normal school or higher education institution, must meet specific requirements established by law, and must hold a license or certificate. In the non-formal system the teacher frequently has had no formal training in preparation for teaching, may not have experienced any form of higher education, ordinarily does not hold a license or certificate, and usually is involved in teaching knowledge and skills that he has himself acquired through training and experience in a specific occupational field such as agriculture, animal husbandry, health services, mechanics, and others. Usually the teacher in the formal education program views his work as a life-long and full-time occupation. On the other hand, the teacher in the non-formal system often views his work as part-time and temporary. In fact, often he may be a member of the group who are his students and his work is undertaken in the spirit of providing assistance to the group of which he is one.

Obviously in the setting of formal education there exist significant efforts to improve the quality of teaching. In non-formal education programs, while there is a continuing concern for teaching of high quality, there has been neither the opportunity nor resources in many instances to provide programs aimed at pre-service teacher preparation or in-service education. The need for volunteer teaching services, the lack

of trained personnel with the qualifications required for non-formal programs, the massive nature of the tasks faced in education for rural development, and the lack of financial and other resources required -- all these have militated against systematic efforts to improve the quality of teaching.

However, here and there, there have been serious efforts at improving the quality and performance of the teaching staff for non-formal rural education programs. One such example is found in a pioneer program in rural non-formal education, Accion Cultural Popular (ACPO) of Colombia This paper provides a brief description of ACPO and a more detailed statement outlining the role and preparation of the "teachers" in the ACPO system of education. It then concludes with the suggestion that established institutions for the preparation of teachers should seriously consider making available their resources to train personnel for rural non-formal education programs.

Accion Cultural Popular

Accion Cultural Popular, a pioneer in the development of radiophonic education programs aimed at rural audiences, was founded as a private non-profit corporation in Colombia in 1947. It has developed during the 30 years of its existence into one of the largest non-formal programs in the world concerned with improving the quality of life of rural populations and promoting rural development. The educational program utilizes radio in combination with various elements and strategies including radiophonic schools, textbooks, a library of related books, a weekly newspaper, extension courses, and special campaigns. Major reliance is placed on a large number of field workers for the most part volunteers, who serve as monitors for the radiophonic schools, as community leaders, and as local leaders in the ACPO program. Special institutes have been developed as training centers for community workers, local leaders, and supervisory staff. In the course of a year, ACPO touches the lives of millions of rural Colombians (campesinos) in its outreach to improve their lives and to offer hope for the future.

ACPO was founded in a setting quite similar to that suggested by the earlier list of characteristics common to developing countries of the world. In 1947 the population of Colombia was largely rural. Illiteracy was high and educational services minimal or non-existent. With virtually no adequate health services, malnutrition was prevalent and the incidence of disease was very high. Productivity of agriculture was low and the population was living in conditions of extreme poverty. Isolation, created by the mountainous terrain, had removed the campesinos from the modern world and its potential benefits.

It was in this setting that ACPO began and developed over a period of 30 years as an instrument for providing this large and disadvantaged segment of the population with educational opportunities that would give them hope for a better life. Today, even with the economic and social changes that have occurred in the thirty years since ACPO began its efforts, the needs of millions of campesinos are still urgent, and ACPO continues to offer them the possibility of a new day of living.

It is important to point out that the fundamental goal of ACPO -- a goal that has remained the same over 30 years -- is the development in the campesino of the understanding and capability necessary to enable him to improve the quality of his life and to contribute to the improvement of the society in which he lives.

Growing out of this basic goal has been a number of specific objectives such as: literacy, health, agriculture, financial management, dwellings, recreation and sports, family relationships, parenthood and responsible procreation, participation in the neighborhood and community activities, capacity for confronting and solving personal and social problems, ethical and religious principles, continuing education and self improvement, political consciousness. From this list of concerns have grown the ACPO educational program, its curriculum, and its strategies for reaching the campesino.

The ACPO educational program utilized a systematic combination of elements and strategies: radio, radiophonic schools, (books of the library), the newspaper El Campesino, audio records for study, extension courses, study days, campaigns, and correspondence. However, a very critical aspect of the ACPO system is the interpersonal component; leaders, community workers, radiophonic school monitors, field supervisors, radio instructors, and the interpersonal component operate in a coherent and interrelated manner in order to achieve the fundamental goal and the specific objectives of ACPO.

Because of the strong belief on the part of ACPO in the importance of the interpersonal component in its systems approach to rural non-formal education, ACPO has consistently been concerned with the recruitment, selection, and training of much of its teaching personnel. The remainder of this paper describes the teachers in the ACPO system, something of their tasks, the method of recruitment and selection, and the efforts made to improve the quality of teaching.

Teachers in the ACPO System

In view of the fact that the ACPO educational process places major reliance on the use of radio broadcasts with support from other media, the concept of teacher is different from that

which is traditionally accepted. If a teacher is defined as a person who helps to guide the learning process of a student, it is possible within the ACPO model to identify at least three classifications of teachers. There are teachers who have no direct or personal contact with the students (campesinos), teachers who regularly have contact in a face-to-face relationship, and teachers who serve as the trainers of teachers.

Professors

The professors, the group that does not have direct and personal contact with the campesino students, operate at the center of the ACPO system. They are the planners, developers, and producers of the educational programs. Their role includes the task of establishing objectives, developing curricula, preparing course content, writing radio scripts and recordings, writing textbooks and devising evaluation procedures.

The individual selected to become a professor must have the basic qualifications of a teacher, a writer, a radio producer, and a radio speaker. As there are no institutions in Colombia that prepare such individuals, ACPO selects those who are to become professors with considerable care and takes into account such factors as background in teacher education, knowledge of campesinos and campesino life, and the capacity to write well and speak effectively. Once appointed by ACPO, a professor undergoes a training program designed and offered by ACPO on both a formal and informal basis including on-the-job experiences. In general, such a training program is individually designed to meet the needs of the person involved and is based on initial competencies and the tasks which are to be assigned. In addition to this program for new appointees, there is a permanent in-service education program for all professors which focuses on helping them to improve their performance.

Field Teachers

The field workers of ACPO, more than 18,000 in 1976, are those who serve in various kinds of teaching roles in face-to-face relationships with campesinos. Three categories of field teachers exist. They are, in ACPO terminology: leaders, community workers, and radiophonic school monitors or immediate auxiliaries.

Leaders. The leaders serve at the community level of the operation of the educational program. They are the promoters of ACPO services, the trainers of the radiophonic school monitors, the adapters of the program content to the nature and

needs of the community, and coordinators of all ACPO activities within the area to which they are assigned.

Leaders are adult campesinos, men or women, who have completed two cycles of courses at one of the training institutes. Preparing the leader, including the study of the role of community worker , is intended to ensure a knowledge, understanding and appreciation of the ACPO philosophy, goals, and objectives. In addition, special training is provided to give the leader a reasonable mastery of the content of ACPO educational programs and how they are taught. Following the completion of the course, some leaders will return to their own communities and serve as volunteers for ACPO programs. Others are selected by ACPO to undertake assignments to specific communities.

Community Workers. Another type of teacher is the community worker. His efforts are somewhat more limited than those of the leader under whose direction he engages in ACPO program tasks. He is viewed as change agent who works directly with the members of his own and neighboring families in encouraging and helping them to engage in study, to enroll in radiophonic school, to participate in other ACPO programs, and to make practical applications of the knowledge they have acquired. At first he is expected to perform these functions with his own family. Then he moves out in his neighborhood and community and extends these same services to other families and individuals.

The community workers, like the leaders, are adult campesinos who have been identified as having capabilities for leadership in the ACPO program and who have completed a four month training program at one of the institutes. The training program is based on the ACPO goals and objectives and deals with the five major areas of: reading and writing, numbers, health, economy and work, and spirituality. The focus is on both the acquisition of knowledge and the application of that knowledge in practical settings provided at the institutions.

Once the training program at the institute is completed, the community worker returns to his own neighborhood and community and undergoes an on-the-job training under the direction of the ACPO leader in that area. He gradually assumes more responsibility for ACPO activities moving from his own family to the larger neighborhood and community in which he lives. He recruits persons to serve as radiophonic school monitors, helps to train them for thier responsibilities, and stimulates the development of additional schools and other types of participation in ACPO programs. As a part of his ongoing training, he participates with other community workers and radiophonic schools monitors in regular meetings under the direction of the leader. His work is completely voluntary and represents his dedication to serving others.

Monitors in the Radiophonic Schools. The third type of teacher is the monitor of the radiophonic schools. The monitor may be any man or woman, having some knowledge of reading, writing, and numbers, who serves as the bridge between the radio professor and the campesino students. He attempts to interpret what the radio teacher says and to bring it to reality in the setting in which the campesinos live.

The monitor has a variety of specific functions that facilitate learning. He organizes the group and encourages their regular participation in the radiophonic class. He provides and has ready materials and equipment that are needed for each lesson, follows instructions given by the professor and helps the students as they engage in group activities as prescribed. He provides general supervision, encourages and promotes discussion, adapts lesson content to the local situation, and guides the students in making practical applications of their learning in everyday life.

The selection of the monitor occurs in various ways. Sometimes he is selected by the students planning to participate as a radiophonic school group. Or, he may himself organize the radiophonic school and initially assume the role of monitor. In still other cases, a leader or community worker or the local priest may select and recruit him to serve as a monitor.

The monitor is basically a natural teacher. Although no formal training program is offered prior to becoming a monitor, once he has accepted this responsibility informal training efforts are often carried out by leaders or community workers on an individual or group basis. In any case, the regular meetings of monitors and community workers under the direction of the leader as well as participation in extensive courses provide useful in-service training.

Supervisors

The Supervisors are field workers in the ACPO system who have special managerial/supervisory responsibilities for the field teachers in a region. While the major role of the supervisor is to oversee the work of a number of leaders in a particular area or a zone, the nature of his task is such that he is concerned with the broad aspects of ACPO services as performed not only by leaders, but also by community workers, radiophonic school monitors, and others.

The supervisor provides orientation and guidance to the leader as well as evaluates the performance of the leader in fulfilling the many responsibilities of his assignment. In the performance of this task the supervisor becomes concerned with the activities of the community workers and the radiophonic school monitors to whom the leader is expected to give super-

vision and support. The supervisor futher makes a general assessment of the effectiveness of the ACPO program in the area -- the curriculum, teaching, and other activities.

The supervisor is the main linkage between the leader and other field workers and the ACPO organization. He reports directly to zone chiefs and their assistants, provides evaluations of personnel, feedback related to the program, and makes appropriate recommendations for the improvement of ACPO services in a specific region.

Teacher Educators

The teacher educators comprise the faculty of the institutes in which leaders, community workers, and supervisors are trained.

They are responsible for the development of the curricula in the three courses of study offered at the institutes, and serve as the teaching faculty in both classroom settings and in field applications of the tasks for which the students are being prepared.

In view of the varied nature of the curriculum, a considerable number of different competencies are required among those individuals who comprise the faculty. Agricultural extension workers teach courses related to agriculture and animal husbandry. Nurses and health experts teach classes in their fields of expertise and assist the students with health problems. Normal school graduates offer courses in language and number skills, history and social sciences, and help students to develop teaching skills. Campesinos direct the practical training for community development responsibilities, having completed the course for leaders and supervisors.

Implications for Teacher Education Programs

Traditionally, teacher education programs and teacher education institutions have shown little interest or concern for non-formal education. This, in spite of the fact that in developing nations all over the world, the most critical need for education is in the rural sector and in the utilization of non-formal education approaches.

Some questions among many must be asked:

- What role can and should teacher education programs assume in rural educational needs in the world today?

- What are some of the concepts that teacher education institutions must consider in order to adapt, modify, and/or create specific programs for preparation of rural non-formal education instructional personnel?
- Is the traditional teacher education institution flexible enough and creative enough to meet the specific needs of rural life in developing countries?

A thoughtful consideration of the characteristics of a teacher training program for non-formal rural education would indicate considerable variance from approaches commonly used in formal teacher training programs.

Selection of teachers for non-formal education cannot be based solely on the academic qualifications so often used in traditional programs. Rather,emphasis must be placed on the nature and quality of experience that has a direct relationship to the needs of rural people. Knowledge of agriculture, animal husbandry, an empathy for the learners, and in fact a kinship which grows out of being one of the group itself are kev elements in selection.

The differentiated staffing goes beyond the concept as typically employed in formal education. Rural non-formal education calls for a cadre of institutional personnel who can raise the motivation of their participants, all of whom are voluntary; who can guide them in a wide range of learning areas -- literacy, agriculture, animal husbandry, family living, spiritual and moral behavior, participation in community activities; who can adapt curriculum content to individual needs, environmental situations; who can prepare materials specifically related to rural needs; who can perform and demonstrate the specific tasks to be learned by the participant.

How effectively will teacher education institutions meet the challenge facing them? Certainly, the capability to do so exists. But, if the challenge is to be met successfully, it means that the shackles of traditionalism must be thrown off, that new and creative approaches must be developed, and that the preparation of a new breed of non-formal education teachers must occur.

It appears clear that the task to be done is by no means identical with the traditional teacher education. Teacher education institutions around the world should seriously consider making available their resources to help meet the enormous needs for teacher training in non-formal education programs.

Section Five:

STRENGTHENING THE LINKS BETWEEN HIGHER EDUCATION AND BUSINESS

A regular feature of ICET's annual World Assembly, is a half-day seminar on the relationships between higher education and the business community. Clearly, each needs the other. The corporate world relies on higher education for its manpower and should therefore be concerned with the quality of its product. Higher education needs the support of the business community both in terms of resources and training opportunities. Attending the educator-businessman seminar each year are local businessmen of the host country, international businessmen on the ICET Board of Trustees, and educators attending the conference.

Section Five deals with KIM's account of the unique relationship that exists between Korean universities and Korean corporations. Mr. Kim, member of ICET's Board of Trustees, writes from the perspective of both business and the university; from business as President of Daewoo Industries, one of Korea's largest industrial firms and from the university as a PhD in economics and professor at a Korean university.

The Business Community and Higher Education in Korea

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During the past 15 years, Korea has achieved one of the highest economic growth rates in the world. It has become one of the remarkable success stories in international development, and is frequently called the "Miracle of the Han River." This striking economic progress of Korea has been largely attributed to remarkable export expansion and relatively abundant well-educated human resources. At the early stage of development, the rapid expansion of education, especially in secondary and higher education, did indeed meet the requirements of manpower in economic growth. However, as rapid economic growth absorbed the accumulated high-talent manpower, the Korean economy began to face a shortage of high-level human resources, especially in the technical areas.

In this paper I shall discuss the business community and higher education in a rapidly growing nation as viewed by an entrepreneur as well as a professor. Having spent my professional life in the university and industry, it has been my privilege to think about this relationship from both perspectives. In this presentation I will:

- Review briefly the socio-political and economic background of rapid economic development in Korea.
- Survey briefly the history and rapid growth of higher education in Korea and its contribution to economic growth.
- Analyze the major problems of Korea's manpower development.
- Suggest appropriate strategies for interaction between higher educational institutions and industry.

Economic Development

Socio-Political Background

Since the early 1960's, Korea has maintained an unprecendented degree of political stability which is an essential for economic development. The social environment of Korea has also contributed to rapid economic development. For various cultural and historical reasons, the society of postwar Korea was less rigid and more fluid than in most other developing countries of Asia. With no strong religious or regional differences, and no deeply entrenched caste or class structure, the move toward economic development was less hampered by class, religion, and tradition. The adaptability and mobility of the labor force was relatively unlimited by social confinements.

However, excessive migration of the rural population into urban areas adversely affected the balanced growth of the economy. The urban population increased sharply to over 40% of the total population in 1970 as compared with only 28% in 1960. This led to an unbalanced growth of certain elements of the social structure. While the managers and technicians of the newly emerging middle class began to enjoy a much improved standard of life, the majority of factory laborers and farmers had to lead life at a low level of subsistence.

To deal with their sense of frustration and the potential for conflict the government introduced various measures such as land reform, creation of more jobs, increased educational opportunities and especially the Saemaul (New Community) Movement. Initiated in late 1971 by President Park Chung Hee, its purpose was to maintain a more equitable distribution of growth benefits and to deal with the economic imbalance between rural and urban areas.

As a nationwide self-help program to improve the quality of life in the rural area, the Saemaul Movement has played an important role in maintaining parity between the incomes of farm and urban households. For this purpose, particular emphasis has also been given to improving income distribution by tax reform, created new jobs, health care, and new programs. At the same time, government policies have especially emphasized improvements in the rural living environment through rural electrification, sanitary water supplies, and housing improvements.

Economic Background

Since the introduction of its First Five-Year Economic Development Plan (1962-1966), Korea's GNP increased at an average rate of 10% per annum, one of the highest economic growth rates in the world. The economic progress of Korea was largely

attributed to the striking export expansion. "South Korea, once synonymous with war and devastation and ruin," said the New York Times on December 26, 1977 "has emerged as one of the top 20 trading countries of the world."

Along with rapid economic growth, the economic structure was transformed from a largely agricultural society into a semi-industrialized manufacturing sector. Employment in manufacturing trebled in the period from 1963-1974, and its share of total employment increased from 9 to 18 percent. During this time Korea concentrated on labor-intensive, export-oriented light industries such as textiles, clothing, electronics, wigs and plywood.

In the present Fourth Five-Year Economic Development Plan of Korea (1977-1981), the Korean government is attempting to change the export pattern from light industry to chemical and heavy industry especially electronics, steel, ships and automobiles. In the long run, in view of the current trend of protectionist policies in developed countries as Korean labor costs rise, it is felt that a Korean economy, based on light industry and rapid industrial growth via export expansion alone cannot be maintained. Therefore, Korea's emphasis on the development of heavy and chemical industries through the deepening of the industrial structure and on the creation of knowledge-intensive industries via technological promotion is both necessary and desirable.

Development of Higher Education

The relatively abundant human resources, unusually well educated and industrious which are found in Korea have probably been a major cause of its striking economic progress. The name Korea, derived from an ancient dynasty, Koryo, means "the land of high mountains and sparkling streams." Although Korea is poor in natural endowments it is rich in relatively well-educated human resources.

Until 1945 liberation from Japan, the general state of education had been very low. According to the population census of 1944, only 2 % of the population above age 15 had taken secondary education or more. Such a shortage in highly educated manpower contributed to the disordered economic situation during the pre-Korean War period.

However, from the early 1950's, enrollments in higher education institutions, including four-year colleges and universities, two-year teacher training colleges, two-year junior colleges, and technological institutions grew rapidly. The number of higher education institutions increased from 199 in 1965 to 286 in 1975. In 1975, there were 297,000 students enrolled in higher educational institutions.

However, this enormous growth produced a supply of college graduates that far exceeded the demand for high-talent manpower. At the same time it was being recognized that the quality of education provided was relatively low, due to shortages of well-trained teachers. As a result, almost 60% of 15,000 college graduates failed to find jobs within three months after leaving school in 1960. The government moved to curtail enrollment in higher educational institutions.

In 1961, the government prepared a Five-Year Educational Reconstruction Plan (1962-66), a comprehensive educational effort to integrate educational policies into the First Five-Year Economic Plan and to deal with ever-increasing educated unemployment. However, during this period enrollments in higher education institutions were in excess of manpower predictions by 38%.

The oversupply of medical and engineering personnel became obvious as graduates turned to emigration, changes in occupation, and acceptance of underemployment.

The reasons for this respect and yearning for education in the face of economic disincentives is deeply ingrained in the Korea character. Korean society is homogeneous in terms of language, religion and culture. There are no strong regional or religious differences, no deeply entrenched class struture. Consequently, the social status of an individual is less hampered by class, religion and tradition than in some other societies, and more dependent on the level of education.

In general, in less-developed countries, social demand for education is strongest where the public sector finances the education cost. According to a UNESCO report, private expenditure financed almost 35% of the total expenditure on education in Korea during the mid-1960's. In spite of the fact of a relatively low ratio of public educational spending to GNP, the social demand for education was so strong that most individuals willingly supported their own educational costs.

Since 1971, the government has attempted to limit the expansion of higher education enrollments. The number of students at each college is fixed and adjusted by the government on the basis of manpower demand projections. Although the abundant stock of high-talent human resources played an important role in achieving striking economic growth after 1962, the labor-intensive, export-oriented pattern of economic growth of this period is giving way to a new economic reality.

To review the implications of long-term educational perspectives and to examine current educational problems, the government prepared the Comprehensive Educational Plan (1972-86). Through quantiative projections of enrollments, teachers, and physical and financial requirements, they recommended qualitative changes in higher education, including innovative extensive use of

graduate school. The proposed outline of educational policies may be summarized as follows:

- Improvement of the incentive system for professors and expansion of educational research and development.
- Emphasis on science and technological education.
- Reinforcement of university-industrial cooperation.
- Modifications of the financial support structure for higher education.

Problems in Manpower Development

The Korean economy has begun to suffer a shortage of high-talent human resources especially in the technical areas. Quite recently, however, the Korean government has recognized the urgent need for new strategies to improve scientific and technological capacity through strengthening higher education. What are the major problems and impediments that face Korea's manpower development? What are appropriate strategies to encourage interaction between institutions of higher education and industry? Can Korea generate the know-how to develop and apply advanced technology for her future development?

The Major Impediments to Technical Growth: The capacity to generate technical innovations is considerably restricted by scant financial support. The Korean economy is characterized by structural duality, modern and traditional sectors, with a considerable gap in relative productivity and little adaptability to technological renovation on the part of traditional entrepreneurs.

- Imported technology is not shared with the rest of the economy when acquired by subsidiarires of transnational corporations from home offices abroad.

Need for Skilled Manpower: Korea now experiences shortages of skilled laborers, technicians, engineers and scientists. According to The Long-Term Socio-Economic Plan (1971-91), the demand for this high-talent manpower will far exceed estimated supply.

Demand for Higer Education: Despite the drastic increase in enrollments of higher educational institutions from less than 1% in 1945 to 9.3% in 1978, the demand for extending opportunities for higher education increases. Year after year, almost

half of high school graduates desire to enter the higher educational institutes, yet only one-third get into the schools because of institutional enrollment restrictions imposed by government.

Strategies for Manpower Development: A comprehensive strategy of high-level manpower development should be formulated flexible to solve the problems mentioned above and to meet with the requirements of rapidly changing economy. Particular emphasis should be focused on the following points:

- Korean business managements should develop and organize their own research and technical capabilities.
- Korea should gear its higher education to science and engineering, as well as to technical training at the subprofessional level to solve the shortage of high-level manpower.
- The government should review the current state of higher education and provide financial assistance as well as administrative support to accommodate the vastly growing number of students demanding higher education.

Interaction Between Industry and the University

The KTSF

The Korean Traders Scholarship Foundation (KTSF) is a good example of industry-university cooperation. Founded in 1974 as a permanent, nonprofit, nonpolitical and nongovernment organization, the KTSF:

- Furnishes financial support to university or college professors for research and development activities in various areas;
- Awards fellowships or scholarships to graduate students, undergraduates of universities, colleges, and technical high schools;
- Provides supports for professional meetings, seminars, open lectures;
- Gives financial assistance for publication of academic or professional reports, journals or reviews.

By 1977, the KTSF funded almost U.S. $2 million for 955 projects in various fields of research and development, mainly

providing grants for university professors for approved research and development projects.

A National Task Force

The Korean government has begun to struggle with how to more efficiently control the capacity of both universities and government research institutions to meet the needs of the private sector, while at the same time increasing the role of the private sector in the development of technology. In 1976, the government formed a national task force to evaluate the role of higher education in national development. They recommended extension of enrollment quotas for universitites and colleges from the current 9% to 12% of the eligible age group, from 1977 to 1981.

Technology Consultation Centers

Opening these centers in major foreign countries in the near future will help to introduce advanced technology. Besides this effort, the government will also increase expenditure on research and development from .3% of GNP in 1975 to 1.5% in 1981.

Summary

Korea's rapid growth of education at an early stage of economic development may be ascribed to the relatively low public expenditure on education, the heavy dependency of an individual's social status on education, and the strong social demand for higher education due to Korea's unique cultural and historical attributes.

Quite recently, however, the Korean economy has begun to experience the shortage of high-talent human resources in technical areas as the economy continued to grow. To meet this problem and move toward advance industrial nationhood, Korea should undertake the comprehensive development of high-level manpower. Korean entrepreneurs should create and advance their own research and technical capacity by increasing financial support of R & D and strengthening industry-university cooperation.

The Korean government needs to emphasize improvement of higher education, especially in the area of science and engineering, through the appropriate financial and administrative assistance. In addition, the government should make those amendments necessary to accomodate the ever-increasing demand for places in universities and colleges.

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